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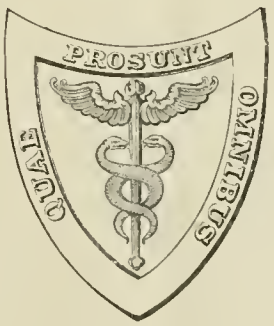

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ORIGINAL LECTURES.

SHAKING PALSY.

A Clinical Lecture delivered at the Good Samaritan Hospital.

BY JAMES T. WHITTAKER, M.A., M.D.,
PROFESSOR OF THEORY AND PRACTICE OF MEDICINE IN THE MEDICAL COLLEGE OF OHIO.

(Reported by JAMES M. FRENCH, M.D.,
ASSISTANT TO THE CHAIR).

GENTLEMEN: It is pretty plain to see what is the most prominent symptom in this case—tremor; tremor which, as you see, is most visibly marked in the hands. If you make a study of the tremor in this case, you will see that it is rather more marked in the right hand than in the left. You observe that it extends also to the forearms; the arms are also slightly affected. I now call your attention to the fact, and wish to emphasize it, that there is no tremor in the head. The tremor extends also to the lower extremities; you observe that constant agitation of the legs, and perhaps you noticed when he was in bed that the feet were in constant motion too. You observe, again, a peculiar habitus of the body; you notice an inclination of the body forwards and to the left. The head is drawn down upon the body; the chin is depressed, the body is somewhat rolled up upon itself. You see that there is a peculiar expression about the face; the features have a fixed and rigid aspect; there are no changes with the emotions in a face like that. The patient has been in the house about six weeks. He has had this trembling of the hands about five years. He is now 69 years old; the tremor, then, came on at the age of 64. It attacked the left hand first, he tells us, then the right hand about a year later.

We have before us a patient who shows us some very peculiar symptoms, symptoms most marked in the hands, and accompanied by a peculiar deformity of the members affected, to which I shall call your attention a little later. The tremor first appeared in the left hand, then in the right, and then after a little lapse of time, a lapse which the patient scarcely observed, no doubt, it showed itself in the lower extremities. There is a rigid aspect of the face, an immobility of the features, and the patient talks in a monotonous, drawling tone. Now, if I were to ask you to make a diagnosis of this case, I have no doubt that many of you, and those, perhaps, who have had the best opportunity to study nervous diseases, would say that it is a case of disseminated sclerosis; but it is not sclerosis, and I have brought the patient before you to show you the difference between this disease and that. This is a case of what is commonly called "shaking palsy." But by no means every case of tremor in the aged is a shaking palsy, and the disease is not so common as perhaps you would suppose. The mistake in supposing that it is so common lies in the fact that, with the people, every case of tremor is called shaking palsy.

If we study what is to be seen in this case, you will observe in the first place that the disease attacks an old man; he was 64 when it began. This is a point of great importance, because the organic diseases which are attended with tremor generally attack young people. The most common form of tremor is chorea, St. Vitus's dance. St. Vitus's dance is, in the great majority of cases, a disease of childhood. It does occur in the adult, but such cases are rare. You know it by its bizarre, extravagant, fantastic movements; you know it by the irregular, jerking character of the movements. There is another kind of tremor which attacks extreme old age, the so-called senile tremor, that comes on in individuals most advanced in life, in individuals for the most part between 70 and 80. These are patients who suffer from the muscular atrophy of age, but that is a very different disease from shaking palsy. It distinguishes itself by attacking the muscles of the neck, so that the head and chin are in constant agitation. It is never very severe. It is plain to see that senile tremor is an expression of weakness, of the muscular failures of senescence. It would be a very exceptional case to see tremor of the head in paralysis agitans. Then paralysis agitans comes on earlier, at the age of forty, it may be. Charcot reports a case in which it appeared as early as the sixteenth year. Another case reported was eighteen; but these cases are rare, and for the most part we look upon young cases when reported as errors in diagnosis. For instance, many cases reported as cases of early paralysis agitans are cases of chorea or sclerosis. Ninety-two per cent. of the cases occur between the fortieth and the seventieth years. We see so many cases, however, between forty and fifty, that we cannot look upon it as a disease due simply to age. Senile tremor is due, then, to lack of nutrition in the muscles. This disease, however, is independent of any lack of nutrition.

Well, what is it that causes this disease? The attempt was made to show that, in many cases at least, there was a hereditary influence, but that attempt has not been very successful. It is by no means proven of it at least as clearly as it is of many other neuroses. This disease is purely a neurosis. Still Berger, who has studied this disease lately, thought that there was an element of heredity in many cases. By this we do not mean that the individual is born with the disease, but that the disease will develop in him at the period it showed itself in his parents. Calves are not born with horns, but they develop them later. In about eleven per cent. of the cases of the disease before us, he claims that there can be discovered an hereditary tendency. Nearly all neurotic diseases have a heredity as a prominent factor in their etiology. In epilepsy it amounts to about thirty per cent.

To show you how rare this disease is, I may say that, of 6000 cases of nervous disease observed in the Vienna

Hospital, there were only 37 cases of paralysis agitans. We say, then, that the disease is rare; that it occurs in advanced life; that it is to some extent hereditary. We next observe that it is sometimes due to some mental disturbance, being caused occasionally by excitement of the emotions, as by sudden fright. It is caused by domestic infelicities sometimes in women, and by financial distresses sometimes in men, for it occurs in the one sex about as often as in the other. Then it may occur as a result of getting wet, as a result of cold, we say, when we know not what else to say, and it may occur as a result of trauma. Charcot reports the case of a woman who had an injury to the leg, and in whom a tremor developed in that limb, afterwards extending to the rest of the body.

San Martin reports a case in which an injury of the arm was followed by a tremor which gradually extended to the rest of the body. Then, in a great many cases, we can not find any satisfactory explanation of its cause at all. The disease comes on in some individuals without any apparent cause. Some cases have followed typhoid fever and other infectious diseases, and some cases have followed burns.

It occurs most commonly in the hand, and most frequently in the right hand, but in this case it is most marked in the left. The tremor develops so insidiously that the individual does not notice it until his attention is directed to it by some of his friends. Another distinctive peculiarity of the tremor of this disease is that it does not occur only when he attempts to move. On the contrary, if the individual make an effort he can to a great extent control the tremulous movements for a while. In this case, however, the disease is, as you see, too far advanced for any arrest of tremor. If you tell an individual not so far along to "make a fist," he will generally succeed, and control the movements to a great degree, but, the moment he relaxes the volitional control of the member, the tremor returns. It is, therefore, not a volitional tremor, for it is somewhat, in early cases entirely, under the control of the will.

The disease may manifest itself in a number of ways. It may remain localized to one side of the body, to one arm or to one leg; it may affect the arm and leg of one side only, or it may affect both upper or both lower extremities, producing a kind of paraplegia. Sometimes it crosses, attacking the right arm and the left leg, or the left arm and right leg, but these cases are not common. There is always associated with it a paresis of the muscles; sometimes this paresis exists for several years before the paralysis ensues. Paresis you will readily detect. Put the dynamometer into first one hand and then the other, and you will find that the individual can swing the lever around with one pretty well, but it reaches only part way with the other. You notice, then, weakness and tremor; but you notice another thing, and that is the deformity which supervenes. A man who is familiar with this disease would recognize it in this case, as he walked into the room, without observing the tremor, simply from this peculiar deformity; and in some cases, I ought to say, there is no tremor at all. This is the hand of a man with paralysis agitans. The hands are bent at the metacarpo-phalangeal joints; it looks something like the deformity of arthritis deformans, but there is here no dislocation, and there are no nodular growths about the joints. You can see at once that the deformity is only a muscular affection; you can overcome it, but it soon regains its old position. The hand has the habitus of the writer. When a man holds a pen in his fingers the thumb passes under it, the forefinger over it, and the second finger around under it, and this is the position of this hand. It is often when attempting to write that this disease first makes its appearance, the individual writing in undulatory lines instead of following a straight line across the paper, and this is often noticed before the paralysis is observed. Sometimes the individual rolls the fingers as though he were rolling bread-crumbs between them, or beating a drum; but this deformity of the hand is sufficiently characteristic—the flexed metacarpo-phalangeal joints with the other joints extended. Then we notice great tension of the muscles —"Spannung," the Germans call it. There is a tension of the muscles making the deformity, and a tension of the muscles to overcome it. This is what draws the head down upon the trunk and gives the face such a peculiar expression.

In this individual the tremor does not extend to the muscles of the neck, but I see there is some tremor of the muscles about the chin and some tremor of the tongue. There is generally some tremulousness of the tongue.

There is another point to be observed in this case. When this individual attempts to walk without support he has to walk faster and faster. Nobody ever put that so nicely as Trousseau; he said that the individual has his centre of gravity before him, and he is constantly running after it. You ask the individual to take a step backwards, and he has to go faster and faster; he cannot stop until he falls over. This individual has his body so doubled up that it is thrown out of the line of gravity, and hence he has to walk rapidly in order to maintain his equilibrium. He seeks for some place to put his hands. Hence you may recognize the disease at first in the gait of the individual. You may see it in him when he rises from a chair or sits down. This man, however, is not able to rise or sit down unaided; he has gotten beyond that. In the earlier stages of the disease there is no affection of the inorganic muscles; the sphincters are not affected; but in this case there is some incontinence of urine.

With what disease would you confound it? I have spoken of chorea and of senile tremor. Then there is a mercurial tremor and a saturnine tremor, but in these cases the tremor is generally more universal, and the subjects are generally younger individuals. Then there is the history to aid you. Up to 1867 it was confounded with multiple cerebro-spinal sclerosis. Before that time it was called Parkinson's disease. He showed us how to separate it from chorea; Charcot has shown us how to separate it from multiple cerebro-spinal sclerosis. Sclerosis shows itself first generally in the lower extremities; then the agitation is not pronounced at all until the individual attempts to move himself; a man will have his hands perfectly still until he attempts to feed himself, then he is seized with a tremor. The point of distinction is that in these cases the tremor is volitional. Then, also, in multiple cerebro-spinal sclerosis we do not have this muscular tension, or this peculiar gate, or this peculiar deformity of the face or hands. Then there is no nystagmus in shaking palsy.

We separate the two diseases with a very superficial survey.

These are the only affections with which you are liable to confound the disease, and you see how easy it is to differentiate paralysis agitans. You see it in the fixation of the face, in the bending of the head upon the trunk; no disease closely resembles it, but only distantly simulates it. You will not, however, often see cases in which all the symptoms are so well marked as in this case. Mistakes do sometimes occur, for in post-mortem examinations cases of paralysis agitans, as they were supposed to be, have turned out to be cases of multiple sclerosis. In most cases, however, the lines are so distinct that he can see them who runs.

As a rare feature of this affection, we sometimes see a paresis of the eyes, and there is an inability to read. The eyes, instead of leaving the end of one line when it is read to return to the beginning of the next, will—and this is most pronounced when there are several columns on each page—run across into the adjoining column of the page. There is no lesion of the optic nerve, and no blindness occurs, as in sclerosis. Sclerosis is an organic disease, attended by organic changes in the brain; this disease, however, so far as is known, has no lesion at all. This is a functional disease, as we call it. There is no lesion, no hemorrhage, no hardness, no change in the course of the nerves, no induration, and no softening. We do find all sorts of lesions, softenings, etc., which are commonly found in the brains of old persons, but there is no constant lesion. This is a disease which as yet has no pathology. By that we mean that it is a disease with an anatomy which as yet eludes our investigations. It is a disease which, although it comes to a stand, nobody ever recovers from. Nobody was ever cured of this disease. We can make the individual comfortable to a great extent, and we will try to do that for this old man, but that is all.

I cannot repeat to you all the remedies that have been used in the treatment of these cases. Take your Materia Medica and read over the list, for they have all been tried. All the anodynes have been employed; the different preparations of opium, of which codeia seems the best, since it does not constipate. In the advanced cases we find great emaciation occurring. The emaciation is not on account of the disease, but because of the confinement to bed. That is generally the way these patients pass away, that is, by marasmus. Hydrotherapy has been found of no value in this disease. Gentle friction, massage, is of great use; the application of electricity is of use, not in the cure of the disease, but in the alleviation of the constant manifestations of the disease. Arsenic is a remedy which has been of some benefit in increasing the nutrition. Eulenberg has shown us what may be done with it. This man has been taking it for ten days, and when I went in to see him yesterday, after not having seen him for a week, I was surprised at the improvement in his appearance. The proper treatment of a case of this disease is to give him all the exercise he can take. This man must have passive exercise, for he is unable to take any other; he must have frictions, with alcohol or vaseline to prevent abrasions of the skin. Galvanization and faradization of the muscles with a very mild current would do him good. Only a mild current should be used, because a strong current only exhausts the nervous system and does more harm than good. In this way we may keep the individual comfortable for a long time, for the course of the disease is measured not by years, but by decades. There is nothing to curtail the disease. I brought the patient before you for the purpose of showing you not how to cure it, but how you can always recognize it and differentiate it from any other disease that simulates it. Its marks are very plain. Sometimes you catch it in the voice. This patient drawls his words in a monotonous tone. A sclerotic patient often disarticulates his syllables and scans his words. But there is no childish treble in this case. By the way, the childish treble is not due to age, as Shakespeare put it down. You all know very old men. How many of them have the voice that "pipes" in its sound? The childish treble is a manifestation of paralysis agitans, and often appears at the military and magisterial as well as at the age of the slippered pantaloon.

ORIGINAL ARTICLES.

TUBERCULOSIS OF THE UTERUS.[1]

BY W. J. JONES, M.D.,
RESIDENT PHYSICIAN OF BAY VIEW ASYLUM, BALTIMORE, MD.

THE purpose of this paper is to call attention to a form of uterine disease, which, though comparatively rare, seems not to have met with that recognition on the part of English and American authors to which it is entitled. Most authors — Thomas, Emmet, Meigs, Playfair, Lusk, Simpson, Cazeaux, Savage, and a few others—do not mention tuberculosis of the uterus at all, and those who do refer to this affection give it but a very slight notice.

Two cases have been seen at Bay View Asylum since May 1, 1884. These two cases, with one other, were kindly turned over to me for publication by my friend, Dr. William T. Councilman.

CASE I.—Fannie G., white, æt. 40 years; nullipara. The autopsy showed advanced tuberculosis of both lungs, tuberculous ulcers in the ilium, miliary tubercles in the liver and spleen and a few in the peritoneum. The uterus was small; flexed toward the left. On its posterior surface and in the fundus, immediately beneath the peritoneum, were two myomata as large as a pea. The uterine cavity was small and contained a small amount of caseous pus. The entire fundus was covered with a superficial ulceration, in which numerous whitish points could be made out. The distal ends of the Fallopian tubes were very much dilated, and, on squeezing them, a thick, grumous, caseous pus was exuded. The left Fallopian tube was very much twisted up and convoluted, the different parts being bound together by old adhesions. Both ovaries were rough and contracted, and of a dense, fibrous consistency. Microscopic examination of the caseous mass contained in the cavity of the uterus and in the Fallopian tubes showed the presence of abundant tubercle bacilli. Sections made through the ulcer in the uterus showed a tuberculous inflammation of the mucous membrane, The mucous membrane was wanting in most places, its place being occupied by a dense, small-celled infil-

[1] Read before the Clinical Society of Baltimore, Oct. 17, 1884.

tration which rapidly underwent caseation. In the cervix uteri there was a small hyaline plug of mucus which also contained bacilli.

CASE II.—Mahala D., colored, æt. 26 years; nullipara. Post-mortem showed advanced tubercular phthisis of the lungs, and miliary tuberculosis of the liver, spleen, and peritoneum. In the peritoneum the tubercles were most numerous in the fold between the uterus and rectum known as Douglas's cul-de-sac. The uterus was small and ulcerated over its entire inner surface. The walls were thin and the cavity somewhat dilated. It contained a quantity of caseous pus. The Fallopian tubes were enlarged, convoluted, and numerous adhesions existed between the convolutions. On section, they were seen to be filled with a dry, tolerably tough, caseous mass. Microscopic examination showed a caseous inflammation in the body of the uterus, with numerous miliary tubercles in the submucous tissues. In the Fallopian tubes the folds of the mucous membrane were involved in the caseation, and for the most part entirely obliterated, so that nothing but a caseous mass filling the entire lumen could be made out. Examination of the pus contained in the cavity of the uterus showed the presence of numerous bacilli. These were also found in the ulcerated surface and in the tubercles in this. In the latter, they were seated principally in the edge of the caseation.

CASE III. is the uterus of a woman, æt. 28 years, who had borne several children. Her last gestation was five months before her death from general tuberculosis. The uterus was of ordinary size, and contained in its fundus a large ulcer covered with a dirty, caseous mass. The ulcerative process here, as in Case I., only involved the superficial layer. The Fallopian tubes were distended, thickened, and filled with firm, caseous material. An examination of the ulcer showed the presence of miliary tubercles in the tissue beneath. Some of these were situated far down in the muscular tissue of the uterus. There was no examination made for the presence of tubercle bacilli.

That two cases should have been found at Bay View in so short a time would seem to indicate that the affection is not so rare as is generally supposed. According to Namias, tuberculosis of the uterus is met with twice in one hundred phthisical patients. Dittrich found one case in forty autopsies on tuberculous women, Peuch met with three cases in one hundred and fifty autopsies, Cless, of Stuttgart, found one in seventy, Courty found two in one hundred, and we have met with two cases at Bay View in five autopsies on tuberculous women.

Of course, one cannot argue in general from so small a number of cases, but still it would seem from this that the affection is not a rare one. According to a table deduced from data furnished by Kiwisch, "Out of 68 cases of uterine tuberculosis which he collected,"

6	subjects	were	between	10	and	20	years.
22	"	"	"	20	"	30	"
15	"	"	"	30	"	40	"
10	"	"	"	40	"	50	"
7	"	"	"	50	"	60	"
6	"	"	"	60	"	70	"
2	"	"	"	70	"	80	"

In forty-five cases collected by Dr. Geil, the uterus alone was affected but once. The uterus and tubes, with affection of the peritoneum, was found in 19 cases; without affection of the peritoneum, in 12 cases. The uterus, tubes, and vagina were all affected in three cases. Tubes alone in eight cases. Right tube alone in two cases.

Tuberculosis of the uterus is seldom a primary trouble. Some few cases, however, have been reported in which the uterus was either alone affected, or the process in the uterus was so much more advanced than in the other organs as to make it almost certain that the disease was primary here, and that the other organs were affected secondarily. Most often, though, it is one of the organs last attacked by the tubercular process. It is almost always associated with a tubercular salpingitis, and is secondary to this. In the three cases reported, this is evidently the fact. It is the result of a direct infection of the mucous membrane by the tubercular virus contained in the tubes. Still, we may have cases in which, owing to a general infection of the blood with the virus—*i. e.*, the bacilli—miliary tubercles form, just as in all other organs, from emboli.

Ordinarily, the tuberculosis of the Fallopian tubes follows on a tubercular peritonitis, and the affection of the uterus follows this. Certainly the possibility of infection in still another way cannot be excluded, viz., by coitus. In a case of tuberculosis of the prostate and seminal ducts, it is more than probable that the seminal fluid contains quantities of bacilli; and these, in case they found a suitable nidus in the mucous membrane of the uterus, might produce the disease.

The affection usually takes the form of an ulcerative process, combined with caseation. In the ulcer, miliary tubercles may or may not be found. The uterus contains generally a thick, yellowish-white, caseous mass. A similar mass is found in the Fallopian tubes, and the mucous membrane of these is in about the same condition as that of the uterus. The long, villous-like projections of the mucous membrane into the lumen of the tubes are very soon destroyed, and go to swell the caseous contents.

The seat of the affection in the uterus seems to be almost always in the body. In Case II., the ulcerative process had also affected the cervix, and might have extended into the vagina. Gusserow published, in a dissertation at Berlin, in 1859, several cases in which a tuberculosis of the vagina followed a tuberculosis of the uterus, the pathology of which is about the same as that in the uterus.

The clinical diagnosis of tuberculosis of the uterus can be based upon a persistent leucorrhœal discharge, and other symptoms which would point to uterine troubles; and in any patient of a tuberculous tendency, in which these symptoms are present, we should be led strongly to suspect an involvement of the genital organs.

The diagnosis is often aided by the expulsion of caseous masses from the uterus. The finding of such masses in the discharge as were contained in the uterus of Case II., should make us suspect very strongly the presence of a tuberculous inflammation. We have, however, now at our command one sure

method of recognition, and that is by the presence of the tubercle bacilli in the secretions. In the cases examined at Bay View, large quantities of these were found in the secretions and in the tissues after death, and there is little reason to doubt that they would also have been found during life, had an examination been made.

Siredy and Tomlinson have both shown, by published cases, that the disease is sometimes confined to the uterus and Fallopian tubes. When this is the case, it is of practical advantage for us to recognize it. For the disease may be primary here; and having developed in the uterus, would almost, without doubt, involve the other parts of the organism by travelling the Fallopian tubes and involve the peritoneum, taking a route just the reverse of that ordinarily followed.

In the event of such a case found during life, before the secondary involvement of the surrounding tissues has taken place, a knowledge of how to treat it will present itself for consideration. The authorities which I have examined upon that part of the subject have little or nothing to say. Good hygienic surroundings, tonics, and good food, and perhaps the use of iodoform topically, might at least keep the disease at bay, and thus prolong the patient's life.

NOTES OF A CASE OF HYSTERO-EPILEPSY.

BY ROBERT PATTERSON ROBINS, M.D.,
ASSISTANT DEMONSTRATOR OF CLINICAL MEDICINE IN THE UNIVERSITY OF PENNSYLVANIA.

I. E. C., aged twenty-seven years (but looking somewhat younger), unmarried, a teacher by profession, had been subject to epileptic seizures of varying intensity and frequency for eight years. The paroxysms were at one time diurnal; they were heralded by no distinct aura or premonitory symptoms of any kind, and under appropriate treatment their frequency was considerably diminished; but of late the disease had assumed the nocturnal type and was apparently intractable. That these attacks were genuinely epileptic is assumed, because in every case unconsciousness was present, and the appearance of the patient, the sallow face, the listless expression, and the dull, fishy eye all seemed to indicate the confirmed epileptic. There was apparently no connection between the advent of the epileptic seizures and the periods of menstruation, nor did the patient confess to any dysmenorrhœa or perversion of the latter function; on the other hand, menstruation began in the patient's fourteenth year, and had been always perfectly regular and comparatively painless, and the epileptic attacks did not supervene until her twentieth year. During the two years last past, her intellection, never very acute, had shown signs of impairment under the repeated convulsions, and in May last she had an attack similar in its nature (but of much shorter duration and of much less intensity) to that which is about to be described. Her family history was good, her habits of life quiet and regular, but her digestion was faulty, and she suffered from habitual constipation and hemorrhoids.

During the day preceding the attack, the patient had been peevish and listless, complaining of sore throat and loss of voice, speaking entirely in a whisper, excepting when angry or forgetful. I am inclined to believe that the sore throat was hysterical, as when I examined her throat with a light and laryngoscope twenty-four hours after the paroxysm, I found no traces even of pharyngitis, although she was still complaining of pain and dryness, and was markedly aphonic. She went to her room at nine o'clock and was asleep at eleven when the rest of the family retired. At half-past three o'clock A.M. they were awakened by her screams and ejaculations. and found her in the condition in which I first saw her, which was at four o'clock (August 6th).

The patient was lying upon her bed, forcibly restrained by several members of the family, her hair disordered and her night-dress torn, and in a wild state of excitement. Her delirium was decidedly religious in its nature, scraps of hymns and verses of the Bible being interspersed with promises to "stand up for the Lord," but inquiry afterwards failed to elicit any cause for religious excitement, and I am of the opinion that the latest subject upon which her thoughts had probably dwelt had given the color to her delirium. She did not respond to any appeals for recognition on the part of the members of the family, but I found that any directions given firmly and decidedly (such as to raise the arms above the head, to cross them upon the breast, to open or close the eyes, etc.) were promptly, but apparently automatically obeyed. After a moment, however, she would relapse into her condition of hysterical delirium. Firm pressure over the ovarian region produced neither amelioration nor any species of modification of the attack, and I may add here that during convalescence I examined the patient thoroughly from head to foot, but failed entirely to develop the hyperæsthetic point described by M. Charcot, either in the ovarian region or along the course of the spinal column. The axillary *temperature* of the patient taken at a quarter after four o'clock was 103°; as she became quieter, it rapidly ran down until at eight o'clock it was normal; during the morning, it rose again, and at twelve M. it was 102°. At five o'clock Dr. R. P. Harris saw the patient with me; the temperature was then 101.5°, and the delirium was not so violent, the pulse was rapid and feeble, and she refused her nourishment. We decided to administer nutrient enemata should this condition continue, but at eight o'clock P.M. this was rendered unnecessary by the voluntary imbibition of a pint and a half of milk with a little brandy (f℥j) and sugar. At half-past nine o'clock she fell asleep, so continued throughout the night, and the next morning (August 7th) I had the satisfaction of finding her perfectly quiet and rational, though somewhat weak. Her temperature was then normal. At the height of the paroxysm, I obtained a specimen of her urine, which, upon the application of the usual tests, showed the presence of albumen in moderate quantities (as asserted by Hippert in Virchow's *Archiv*, lix. 3 and 4, and quoted by Dr. Hartshorne in his *Essentials Pract. Med.*, p. 306). I was unable to find any tube-casts upon a microscopic examination. The patient, as far as I was able to ascertain, had no rational intervals whatsoever, between the beginning of the par-

oxysms, at half-past three A.M. on the morning of August 6th, until she awoke on the morning of the seventh at half-past six.

The treatment consisted in the administration of moderate doses of bromide of sodium (gr. x) and chloral hydrate (gr. v) every two hours. This was continued until the afternoon of the sixth, when, by the advice of Dr. Harris, the chloral was discontinued. During her sleep nothing was administered, and during convalescence, which was rapid and satisfactory, the quantity and frequency of the doses of the bromide of sodium were considerably diminished. The patient, up to the time of writing (October 24th), has had no return of the disease.

A curious case of hysteria, partaking rather of the nature of catalepsy than epilepsy, occurred in the service of Dr. Morris J. Lewis while I was an interne at the Episcopal Hospital. The notes of the case cannot be found, and I am obliged to give the details from memory.

The patient, aged about thirty-two, was admitted to the female medical ward of the hospital to be treated for dysmenorrhœa. She was short and very anæmic, and her disease was very stubborn. As far as I can remember, her family and personal history presented no points of interest bearing upon the disease. She was the mother of two illegitimate children, and had had one miscarriage. The usual course of treatment was prescribed, and the case presented no unusual characteristics until the fourth day after her admission, when the nurse hurriedly called me to the ward. I found the patient lying perfectly rigid, her eyes and mouth partly open, respiration and pulse normal, but all parts of the body entirely anæsthetic. We endeavored to arouse her by shaking, pinching, pricking with the needle of a hypodermic syringe, but without effect. Pressure over the ovarian region produced no effect whatsoever. The limbs were perfectly rigid and would remain in any position in which they were placed. The paroxysm terminated spontaneously in about fifteen minutes. These seizures recurred every two or three days; but after the first I found I could always speedily terminate them by the application of the interrupted current, one pole over the ovarian region and one at the nucha. The temperature taken at every attack was always nearly normal; the urine examined under every conceivable circumstance gave always negative results. There was no periodicity in the attacks, and a continuous course of nervines produced but little amelioration in the disease. The patient passed out of my hands when I was transferred to the surgical wards, and I have no further account of the case save the record in the hospital books that she was discharged, "improved," in August, 1881, about two months after she was admitted.

2226 LOCUST STREET, PHILADELPHIA.

MALARIAL HÆMATURIA, TREATED WITH QUININE HYPODERMATICALLY.

BY WHYTE G. OWEN, A.M., M.D.,
OF IBERVILLE PARISH, LA.

THE perusal of the history of cases presenting difficult or unique phases should not be devoid of interest to the profession, and may be of advantage "to a weary brother toiling" with another of the same description.

In the last decade the culture of rice has been extensively introduced into the sugar districts of Louisiana, which has exercised important modifications upon the types of malarial fever. Apropos of rice, I would state that the planters irrigate their fields from the Mississippi River, keeping them covered with water until the month of August, when it is turned off, leaving behind an immense quantity of fish, etc., to putrefy under the summer sun and poison the atmosphere. One result of this is that remittent fever attended with various complications is now generally substituted for intermittent, and the so-called typho-malarial fever is of frequent occurrence.

One of the complications, which is beginning to be quite common in this section, is hæmaturia, and I will give my notes of a case, recently treated, which required a departure from the usual régime:

Mr. A. N. R., aged 37, a native of Louisiana, and by profession manager of a sugar plantation, was taken sick on the 6th of September. I was called to see him on the 8th; found him in the following condition: Temperature 103½° F.; tongue coated; complaining of pain in head and back. I ordered to be taken at once:

R.—Hydrarg. chlorid. mit.
Pulv. jalap, . . . āā 0.5 gramme.
Quin. sulph., ... 5.0 "
Arom. sulph. ac., . . . q. s.
Aq. aurant. flor., . . . 60.0 grammes.—M.
S.—A teaspoonful every hour, the following morning, until five doses were taken.

Sept. 9.—10 A. M., found patient with temperature of 104° F. and urinating blood; other symptoms same as on previous day. The purgative had produced but one slight evacuation, so I prescribed 15 grammes of mag. sulph. to be taken at once, which gave six operations. The temperature declined to normal at 9 P. M. Ordered 2 grammes of quin. sulph. to be taken next morning.

10th.—8 A. M., temperature 103° F.; urine bloody. Manifests no symptoms of cinchonism. Ordered for the next morning, 3.25 grammes of quin. sulph. Temperature declined about 9.30 P. M.

11th.—9 A. M., temperature 103½° F.; other symptoms unchanged. Gave 0.25 gramme of hydrarg. chlorid. mit. and three drops of tr. acon. rad. every hour, and ordered same quantity of quin. sulph. to be taken the next morning.

12th.—Patient very weak; tongue heavily coated; temperature 103° F. Gave beef tea every two hours. Dr. Schwing was called into consultation that evening, and recommended that the patient be given every hour during the intermission 0.2 gramme each of quin. sulph. et. ferri subcarb., followed by twenty drops of arom. sulph. acid. in water.

13th.—The temperature became elevated, at 8 A. M., to 104° F.; stomach very irritable. Dr. Schwing remained all night with the patient, and administered between 10 and 12 grammes of quin. sulph., by mouth and rectum, during the intermission of six hours.

14th.—Patient very much depressed; temperature

105° F.; more blood passed than on any previous day. The patient expressed the conviction that he was a "gone case," and announced his intention of taking no more medicine, as he wished "to die in peace." I had a solution of quin. sulph. prepared and injected 1 gramme into his arm, with a hypodermatic syringe, at 1, 2, and 3 A. M. on the morning of the 15th.

15th.—9 A. M., temp. 100° F., but rose no higher during the day. Urine has been clear since last injection of quinine. 0.05 centigramme of podophyllin given this morning; milk punch during the day every two hours. At 8 P. M. an enema was given, which produced one movement of the bowels.

16th.—The same quantity of quinine was repeated this morning subcutaneously at the same hours as yesterday. No fever and no blood in urine. A large dose of hydrarg. chlorid. mit. and sod. bicarb. was given, which acted very efficiently.

17th.—1 gramme of quinine was given in the arm this morning, and two doses by mouth.

From this date the patient's convalescence was rapid, and he was able to leave for the seashore in five days. The subsequent treatment consisted of Fowler's solution of arsenic at each meal. No abscesses resulted from the injections of quinine into the arm, and its hypodermatic use undoubtedly saved the patient's life.

October 10, 1884.

HOSPITAL NOTES.

TERRACE BANK HOSPITAL FOR WOMEN, PITTSBURG.

Service of R. S. SUTTON, M.D.

ABDOMINAL SECTION FOR IRREDUCIBLE RETROVERSION OF THE UTERUS WITH DYSMENORRHŒA AND MENTAL DISTURBANCE.

Reported by W. L. STONE, M.D., Assistant.

MRS. S. R., aged 31, a woman of highly nervous temperament, was sent to the hospital by Dr. John P. Sterritt, of Pittsburg. Her married life had been a very uncomfortable one. Temporary fits of insanity took hold of her occasionally, and she would break up the furniture and clean out the ho e. When her husband exercised his authority she ould have him arrested. A number of gentlemen adjudged her insane and made out a commitment for her to Dixmont. She fled, and by some means avoided going to the asylum.

She came into the hands of Dr. Sterritt, who discovered the position of the uterus, recognized its fixidity and suspected that an ovary was also in the very tender mass supposed to be the fundus of the uterus, and that this condition accounted for her mental trouble. He sent her to Dr. Sutton for an examination and opinion. Dr. Sterritt's diagnosis was concurred in, and the patient conveyed to Dr. Sterritt a note saying, "I see nothing but an abdominal section for this case." Her menstrual periods were very painful, and between the periods pain was never absent. Sexual intercourse was always painful and often intolerable. She was admitted to the hospital on the 14th day of September, and the operation was done on the 16th, two days later.

Dr. Sterritt gave the anæsthetic. All precautions to have everything aseptic were taken, there were no spectators, and but one nurse present. Dr. Sutton performed the operation. He made an incision two inches in length and passed in two fingers of his left hand. He could not reach the fundus of the uterus or feel either ovary or tube. He extended the incision to five inches, and passed in his left hand. The uterus was found completely retroverted and fixed, the right ovary and tube were readily found, but the left ovary was not found at this effort. Expecting to need the scissors to aid in freeing the uterus he lifted the intestines out of the abdominal cavity and covered them with a warm wet towel, and I held them together above the wound as much out of his way as possible. He passed in his left hand and succeeded in breaking up the adhesions and pulling the uterus up into an erect position; he now found the left tube leading down to the left ovary still adherent, with his fingers he detached it and at once removed it with the tube, securing the stump by means of the Staffordshire knot. Having gotten the right ovary and tube, he detached the latter from an adhesion to the cæcum and removed both ovary and tube. There was some bleeding in the bottom of the pelvis, and it required considerable sponge packing and time before it was arrested. The uterus was left in position, the intestines were restored to the cavity of the belly, a big flat sponge was spread out over them, and the sutures to close the abdominal wound were introduced. The sponge was then removed. A small sponge was now passed to the bottom of the pelvis behind the uterus and fresh blood was found after several repetitions. A long glass drainage-tube was passed down and secured in the wound as it was closed. After an antiseptic dressing of iodoform and carbolized gauze was adjusted the patient was put to bed one hour from the time she began to take the anæsthetic.

On the following morning three and a half ounces of blood were taken from the tube, her pulse was 88, and temperature 99.4°. She had passed a comfortable night. Later in the day the tube was removed. During that night, the second, the nurse was napping, and the patient got out of bed and took a turn about the room. The nurse awakened and put her back to bed. She was probably dreaming, as she seemed astonished to know that he was up. She went along with pulse and temperature in nice condition, but very restless and nervous, and displaying much bad temper and obstinacy until the end of the second week. During the second week she had slight diarrhœa for a day or two. She slept some during the day and deviled the nurse all night, objecting to having the gas turned off, and insisting upon having a supply of waste paper. The latter she chewed into wads which she threw at the nurse when she wanted to keep her awake. At the end of the second week she began to eat well, sleep better, and to sit up in bed. By the end of the third week she was out of bed two hours a day, and on the twenty-sixth day after her operation she returned home in good spirits.

The result of the operation on her mental condition must be determined at a date later than the present, but after a sufficient time has elapsed to test the result, it will be reported.

The left ovary was enlarged and its capsule was torn

in detaching it. The right ovary was very slightly enlarged, possibly it was perfectly healthy; both tubes were congested. The operation was done about one week before an expected menstrual period. Some bloody discharge appeared at the vulva a day or two after the operation. The hot douche was resorted to daily until it disappeared. For many years she was in the habit of chewing snuff, and, in anticipation of a continual need of the article, had secreted somewhere a supply, and on the day after her operation the nurse detected her chewing it. It was taken away from her and she had no more during her stay at the hospital. Of this she complained bitterly, and much of her nervousness may have been due to being deprived of it.

The difficulties of operating in a case like this far exceed those of ovariotomy for cystic ovaries. The cavity of the abdomen is not distended, the bottom of the pelvis is dark, and, indeed, in the smoky atmosphere of this city it is often as dark as midnight in the bottom of the pelvis. The fingers and the sponge alone give information. Dr. Sutton is going to try the introduction, through the abdominal wound, of a small Edison lamp, into the pelvic cavity, the apparatus now in use by dentists. He has no doubt that it will illuminate the cavity with absolute safety, and expose all bleeding vessels and greatly assist in the diagnosis. The results will be communicated.

Since writing the above, Dr. Sutton informs me that he has just seen and examined the patient. Her recovery has been perfect; the uterus is in good position, and her mental condition is decidedly improved.

MEDICAL PROGRESS.

The Use of Cocaine in the Nose.—At the meeting of the Boston Society for Medical Improvement, on November 24th, Dr. F. H. Hooper spoke of the effects of this drug in a case of acute coryza. The left nostril was completely occluded, the right only partially. The sense of smell was absent. On applying a two per cent. solution of the muriate of cocaine to the interior of the nasal cavities by means of a cotton-tipped probe, free respiration was immediately established, the sense of smell returning at the same time. The nose remained perfectly free for three hours, when it began to close up again. This was followed in about an hour by a partial reopening, but at his second visit, five hours after the first application, the left nostril was again absolutely stopped, the conditions, in fact, being the same as at the morning visit. Cocaine was again applied in the same manner, and its use was followed instantly by the same result. Both nostrils have since (two days) remained opened. He had also used it in a case of chronic hypertrophy of the nasal mucous membrane, with the effect of causing a very notable contraction of the swollen tissue. Dr. Bosworth was the first, so far as Dr. Hooper was aware, to call attention to the use of cocaine in the nose. Dr. Bosworth supposes that it produces its effect by causing a tetanic contraction of the muscular fibres which are found surrounding the venous sinuses which form the erectile tissue of the nose.—*Boston Med. and Surg. Journal*, December 18, 1884.

Extrauterine Pregnancy in a Tubo-ovarian Cyst.—Dr. Vulliet, of Geneva, describes, in the *Archiv für Gynäkologie*, Bd. xxii. Hft. 3, a case which he believes to have been of the above kind. There was the history, common in such cases, of previous pelvic inflammation; of the symptoms of pregnancy, milk in the breasts, etc., and the discharge from the vagina of a decidual membrane. There was a tumor behind the uterus, pushing that organ forwards. An incision was made into the tumor per vaginam, but the wall found so thick (in consequence, as was afterwards found, of the implantation of the placenta in the lower part of the cyst) that nothing could be done by this method, and laparotomy was therefore performed, the fœtus removed, and drainage-tubes inserted both into the abdominal and vaginal wounds. The fluid contained in the sac was scanty, grayish, and fetid. The patient died on the day after the operation from septic peritonitis. On autopsy the uterus was found enlarged. The left tube and ovary were found adherent to the parietal peritoneum, and a small abscess between the tube and the ligament of the ovary. The gestation cyst was bounded in front by the right broad ligament and the uterus; behind by the rectum and the pelvic wall. The right tube was adherent to the sac, tortuous, and, when opened, was found dilated, thickened, and opening into the gestation sac. No trace of the right ovary could be found, and the most careful examination of the walls of the cyst failed to discover any ovarian structure in them. Nevertheless, from the fact that the ovary could not be found, and that the tube opened into the cyst, Dr. Vulliet endorses the view of Professor Zahn (by whom the cyst was examined) that it was originally a tubo-ovarian cyst; the ovarian tissue being, as is usual in such cysts, spread out over the wall of the cyst, but probably not recognizable in consequence of the secondary changes due to the pregnancy, death of fœtus, inflammation of cyst, etc. Dr. Vulliet has found, recorded by Cazeaux, an indubitable instance of pregnancy in a tubo-ovarian cyst. He points out, and shows from cases, that three forms of tubo-ovarian cysts are met with: (1) small and of recent formation, with the ovary unaltered; (2) those in which the ovary is wholly or for the most part converted into a membrane, but retains its proper histological structure; (3) those in which, from tension or other changes, the ovigenous tissue is destroyed.—*Medical Times and Gazette*, December 6, 1884.

The Use of Antipyretics in Fever.—At the meeting of the Society of Physicians of Vienna, Dr. Jaksch read a communication on a new antipyretic remedy. He had made a series of physiological and therapeutic experiments with the "chinolin bases," which had first been synthetically produced by Skraup. In the course of these researches he met with a body which must be looked upon as a secondary chinolin base, namely, "Tetrahydroparachinanisol," which had marked antipyretic properties. All the salts of this base dissolved easily in water, had an acid reaction and were distinguished by forming green salts when treated with ferric chloride or with any oxidizing agent. On account of this quality Skraup and Jaksch called this base Thallin, and the salts derived from it Thallin salts. Dr. Jaksch had tried the efficacy of three of these Thallin salts,

namely, the chloride, the sulphate, and the acetate, as well as another Thallin base, the chloride of aethylthallin, in eighty-six various cases of disease attended with fever, as *e. g.*, pneumonia, enteric fever, erysipelas, etc., and he found that these substances had a pronounced antipyretic action when administered in doses of gr. iijss, vijss, and xi .

The speaker remarked that experiments with new antipyretics, kairin, chinolin, etc., had shown that drugs which were only antipyretics were generally of very little use. He, therefore, suggested that further experiments with this drug should be tried on patients on account of its distinct antipyretic character, but he could not in the meanwhile answer the question whether it would obtain a permanent place in the materia medica. It should be remarked that in contrast with kairin, chinolin, and similar drugs, Thallin, when administered internally, caused no disagreeable sensations such as vomiting, cyanosis, collapse, etc., that it only now and then caused perspiration and very seldom gave rise to rigors. The antipyretic effect lasted much longer than that of kairin, and the subsequent increase of temperature developed gradually. Thallin was administered according to the following formula: R. Thallin sulph. gr. xxx, divide in doses quatuor, vel. octo. To be taken in wafer paper. Dr. Jaksch had also experimented with another drug, viz., "Parachinanisol" which, according to Skraup was about equivalent to the half molecule of quinine, but the antipyretic effects of this agent were so inconsiderable that he did not think it worthy of further trial. Another derivative of chinolin, viz., the "Tetrahydroparaoxychinolin" with which Jaksch had only experimented on rabbits, proved a strong poison, animals to which doses of from 0.6 to 0.2 grammes (gr. ½–j) had been given dying in the course of hours with strong tonic convulsions.

Prof. Nothnagel said that he had received the impression, during the last six years or so, that the employment of quinine has become a reflex phenomenon. We have begun to emancipate ourselves from the opinions which were general fifteen or twenty years ago. I would suggest that the fear of a temperature of 102.5° owes its origin to the scientific employment of the antipyretic method introduced by Liebermeister according to the method of Brandt, which in itself is an excellent procedure, and which has added much to our resources. As the treatment by cold baths is attended with some difficulty, and patients have some aversion to it, one began to employ quinine, and since then this drug has been given on a much larger scale than digitalis, nitre and nitrate of soda were employed in earlier times. The two latter have now fallen into disuse and only digitalis is now used as an antipyretic. I cherish the hope and the conviction that this false and erroneous employment of quinine will also in time be discontinued. I need not remark that the way in which quinine is, in most cases, administered, is quite incapable of diminishing temperature. Two, three, or five grains have no effect, nor, indeed, have fifteen grains if taken at intervals of twenty-four hours. Dr. von Jaksch has already remarked that the fever is not a symptom to be removed in every case; the fever, according to my conviction, which is also the conviction of many other investigators, is a most beneficial phenomenon, one of those processes of reaction which we must look upon as compensatory; we do not, however, know in what way these processes work. With respect to the infectious diseases it has been suggested that the growth of microorganisms is diminished in high temperatures; to me, however, they seem quite on the contrary to find more favorable vital conditions in fever. But attention has been drawn to a new point of view. I refer to the interesting writings of Metschnikoff, who is of opinion that the "Fagocytes" destroy the microörganisms and render them innocuous, and that these processes find more favorable conditions at a high temperature. I would only just mention it on this occasion, as our knowledge in this direction is not at all complete. Moreover, I maintain that we do not shorten the duration of the course of an acute fever, even by a single day when we have succeeded in diminishing the temperature; we even know that there are typhoid processes which run a non-febrile course without any therapeutic treatment, and in which, nevertheless, death occurs. We know of a great many accidents occurring in the course of a febrile disease which do not depend upon the high temperature, but which are due to other conditions. I do not mean to say, however, that we may be indifferent to very high temperatures. A temperature exceeding 104° must be energetically combated, but a temperature of 102.5° does not require such energetic treatment, and the less so in diseases which have a short course. This depends very much on the individual, on the constitutional conditions, and so on, and I only mention it *en passant*. In general we may say that a temperature which does not exceed 104° does not injure the patient. Every one who has had the opportunity of observing a case of recurrent fever knows that it is so. The patient suffering from recurrent fever lies in his bed with a temperature of 104°, 105°, or even 106°, quite untroubled, his sensorium is quite unaffected: when the temperature diminishes, the patient is exhausted, but we do not find that the high fever has done him much harm. To return again to the point from which I started, I maintain that it is an abuse to administer antipyretic agents, especially quinine, in temperatures of 102° and 103°, on the very first day of the treatment, when one has yet no definite idea of the development which the disease-process will take, letting alone the practical point of view, that quinine must rise in price if we employ it in all cases in which bicarbonate of soda, hydrochloric acid, or some similar drug would do as well.—*Med. Times and Gazette*, Dec. 6, 1884.

Benefits to Man from Experiments on Animals. —Until the results of the researches by Dr. Ferrier on the localization of the functions of the brain were made known to physicians and surgeons, diseased conditions intrenched within the bony cavity of the cranium had been considered beyond the resources of our art. Numerous benefits to practice have followed. Recently, Dr. Macewen, of Glasgow, reports the following case: Hemiplegia developed slowly in a female who had specific history. Vigorous treatment and counter-irritation were tried without benefit. By the advances made in recent years in cerebral localization, Dr. Macewen was enabled to become reasonably certain of the locality of the brain disease. He trephined over the middle of the ascending frontal and parietal convolutions. The internal table was thickened and rough.

A yellow, false membrane covered the dura mater; this was removed. The dura mater was somewhat thickened. An incision was made into the brain, and about two drachms of fluid escaped. The wound was closed, and it healed without the formation of matter. The next day the patient felt very much better. In three days she could move her toes; within a week she could move her fingers and the entire lower limb. In a short time, she was able to walk and do domestic duty in the hospital. Similar improvement took place in her memory and intellect. There is no doubt that the improvement was directly due to the operation. The results in this case point to the possibility that opening the cranial cavity has a much wider field than that occasioned by injuries.—*London Medical Record*, September, 1884.

Gastrostomy.—At the meeting of the Birmingham and Midland Counties Branch, Clinical Section, on October 31st, Mr. Jordan Lloyd showed a successful case of gastrostomy, performed on August 12th, for traumatic stricture of the œsophagus. Howse's operation was performed. The patient had quite recovered, was being fed through the stomach-tube, and was gaining flesh.—*British Medical Journal*, Nov. 22, 1884.

Absinthe.—At the close of a paper on this subject, Dr. Ferdinand Roux draws the following conclusions:

1. Absinthe obtained by the Duquesnel process is not toxic.

2. Absinthe is a useful drug in chloro-anæmia, convalesence from grave diseases accompanied by alterations of the digestive functions, and in the state of anorexia without lesion of the alimentary canal.

3. Absinthe is especially indicated when more or less obstinate constipation exists with the anorexia.

4. The usual dose should be about gr. jss, taken ten minutes before eating, twice a day, or a one-grain pill may be taken before each meal.—*Bull. Gén .de Thérap.*, November 30, 1884.

The Treatment of Pregnancy and Labor Complicated by Cancer of the Uterus.—In an article in the *Zeitschrift für Geburtshülfe und Gynäkologie*, Bd. x. Hft. 1, Dr. Alfred Goerner relates six cases illustrating the above complication. In one case Cæsarean section, followed by removal of the entire uterus, after the method of Freund, was performed, with the result that the mother died in nine hours. In the second case the cancer was removed during labor with the galvano-caustic wire; and one month after the labor, and again four months after, bits of cancer were scraped away, with much temporary relief; but the patient died ten and a half months after labor. The third case was a most encouraging one. Premature labor was brought on in the thirty-fifth week, and a living child born. On the eighth day after delivery the cancer was removed by the galvano-caustic wire. Two years afterwards no trace of cancer could be found, and two and a half years afterwards the patient was naturally delivered of a healthy child. The fourth case was also very satisfactory in its result. The growth was cut away with scissors, and thus room gained for the passage of the child, which was delivered with forceps, but died from asphyxia. Two days after labor the cancer was thoroughly destroyed with the thermo-cautery. Two and a half years afterwards Dr. Görner attended her for abortion with a vesicular mole, and found the cervix quite healthy. In the fifth case the growth was removed by cautery wire and cutting instruments during labor, and a living child born, but the mother survived only three months. The sixth case was treated in the same way, and a living child born; but the mother died four and a half months afterwards. These interesting cases, we think, tend to enforce the rule that in pregnancy complicated with cancer the first thing to be done is to remove as much of the cancer as possible; this proceeding being not attended with great risk, and often productive of much benefit.—*Med. Times and Gazette*, Dec. 6, 1884.

Biliary Salts in the Blood of Choleraics; Toxic Alkaloid in the Dejecta.—M. G. Pouchet reported, at the meeting of the Académie des Sciences, on November 18th, that in examining the bodies of four choleraics who died in the algid stage, he found, in the blood contained in the heart and large vessels, a considerable quantity of biliary salts. In the urine of patients who had come to the stage of reaction, he also found a large quantity of biliary salts.

In examining the dejecta of cholera patients, he found: 1. That they were almost always of a strong alkaline reaction; 2. That they contained an oily liquid, easily oxidizable and extremely toxic, which, says Pouchet, is certainly a ptomaine.—*Gazette Hebdom.*, Nov. 21, 1884.

Thallin, the New Antipyretic.—Dr. R. von Jaksch states that salicylic acid and its salts are not only febrifuges, but specifics also, whilst the other newly discovered antipyretics are only febrifuges. He has used the Thallin salt in typhoid fever with the result that the temperature fell several degrees in a few hours. The same result was obtained in acute articular rheumatism; it causes a rapid decline of fever and profuse perspiration. It seemed to have no effect upon the real disease; its antipyretic effect was also well seen in several cases of measles, puerperal fever, pneumonia, facial erysipelas, and tuberculosis.

The Thallin salts are, therefore, active antipyretics, and given in doses of gr. iijss, vijss, or xij will lower the temperature and keep it down for several hours.—*Deutsche med. Wochens.*, Dec. 11, 1884.

Subcarbonate of Iron in Surgery.—Dr. Timmermans calls attention, in the *Journal de Médecine de Bruxelles*, to the use of subcarbonate of iron in the treatment of wounds and ulcers, especially when the latter are chronic. In recent wounds it is a hæmostatic and hastens cicatrization, and rapidly heals ulcers due to excoriations or contusions. The ulcer is washed and dried, its surface and edges covered with a thin layer of the powder, and the whole covered with a pledget of lint or charpie and a bandage. During the first few days the dressing is renewed two or three times a day, according to the amount of discharge. Care should be taken that pus does not accumulate, as the iron should be in direct contact with the ulcer. (Timmermans considers it as efficacious as iodoform.)—*Medical Times and Gazette*, Dec. 11, 1884.

THE MEDICAL NEWS.

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SATURDAY, JANUARY 3, 1885.

FAREWELL—ALL HAIL!

THE old year has gone, and is irrevocable as the years before the flood. It is marked by important advances in the science of medicine, and has added much to the prophylaxis of disease, while new therapeutic agents or new applications of old are insignificant, unless the recent use of muriate of cocaine prove an exception.

The year has witnessed the death of many of the most illustrious in our profession, chief of whom in our own country was Dr. Samuel D. Gross. They have entered the invisible silence which few can contemplate without awe or reverence, but which so many, weary with life's years and burdens, come to entertain with peaceful hope. We are taught a too often forgotten truth that doctors like all men are mortal; that the best skill, the greatest usefulness, the largest fame cannot avert the shafts of death—cannot evade the great law—dust unto dust, ashes unto ashes.

Success and failure, sunshine and cloud, have been weaving the warp and woof of individual lives. The year brought disappointments to some, while others were made glad by hopes fulfilled; some it overwhelmed with financial reverses, while very few, if any, have escaped inconvenience, if not positive suffering from "hard times"—they have found it difficult or impossible to make outlay and income correspond; so that this new book could not be purchased or a subscription to that medical journal had to be deferred or relinquished, and even in this joyous season of gifts, in the gladdest period of the year when hearts are most open with love and kindness, wife and children could not be so generously remembered.

But what growth in professional skill, and knowledge, and in beauty and strength of moral character, in noble thought and generous feeling has the year brought to each one? It not unseldom happens that the boy home from school for the holidays eagerly measures his height by pencil-mark made on the wall or the door-jamb a year ago, and how he rejoices at the two inches or more that have been added to his stature! Is it not well for us who are children of a larger growth to measure from year to year our increase in moral and intellectual development? Mind may grow, though the body becomes old and feeble, therein giving promise and prophecy that this earthly life is not all.

To some the year brought weary, wasting sickness, and from others it took away loved ones, the light and joy of happy homes, filling the heart with a sorrow unutterable, inconsolable, and inanimate forms once radiant with all grace and beauty were laid in what faith believes is "God's field sown with the seeds of the resurrection."

But farewell to the old year, with its successes and disappointments, its gladness and grief, its crowns and crosses, its laurel and cypress.

Another year comes to wed our life—ours until death do us part, for some the parting will be by individual death, but unto most the year will die. As of old, the Doge of Venice, in official capacity, once a year, with pomp and stately ceremony, wedded the city to the Adriatic, for the sea brought prosperity; so do we wed the year whose hurrying days give us new opportunities for growth and usefulness. We may crown ourselves with rosbuds ere they wither, but let us also crown our lives with good deeds, make the world wiser or better for our living in it, help, each in his own way, each with full zeal and power, in enlarging professional knowledge, in lessening human suffering, and in lengthening human life.

Let us not carry into the new year any strife or animosity, any heart-burning or ill-will from the old, but cast them all into the deep sea of the years that are gone: "Do it straightway while the fateful future is not yet here."

All hail then to the New Year! May it be a happy one to each of our readers.

NEPHRECTOMY.

IN the issue of THE MEDICAL NEWS of last week DR. R. F. WEIR records a case of removal of a suppurating kidney through a lumbar incision, which proved fatal, in ten hours, from collapse. After securing the pedicle a severe venous hemorrhage followed the excision of the organ, which was finally controlled by plugging the wound with sponges, and which was found, post mortem, to have come from a large vein

three-fifths of an inch above the ligated pedicle. He also narrates a recovery after lumbar nephrotomy for an abscess consequent upon laceration of the organ, and states that nephrectomy has been resorted to at least 152 times, with 76 deaths, or a mortality of 50 per cent., although he analyzes only 141 cases, of which 71 proved fatal.

The kidney has been excised for wounds 5 times, with 2 deaths, or a mortality of 40 per cent.; for ureteral fistules 9 times, with 3, not 2, as given by Weir, deaths, or a mortality of 33.3 per cent.; for floating kidney 16 times, with 6 deaths, or a mortality of 37.5 per cent.; for hydronephrosis 21 times, with 12 deaths, or a mortality of 57.14 per cent.; for tumors 32 times, with 22 deaths, or a mortality of 68.75 per cent.; and for suppurative lesions 58 times, with 27 deaths, or a mortality of 46.5 per cent.

It will thus be seen that the best results have followed the extirpation of kindeys not altered by disease, as of 30 examples of the operation for wounds of the organ, mobility, and ureteral fistules, only 11, or 33.66 per cent., perished, which is less by 20.48 per cent. than for hydronephrosis, 35.09 per cent. than for morbid growths, and 12.84 per cent. than for suppurative lesions.

Dr. Weir is of the opinion that only small tumors should be submitted to the operation, or such as can be reached through the loin, since the mortality of the abdominal incision for neoplasms is 80 per cent., as against 28.57 per cent. for the lumbar incision. He also excludes hydronephrosis, since he shows that 16 cases of incision with drainage for this condition have yielded only 2 deaths, or a mortality of 12.5 per cent., as compared with nephrectomy, which furnishes a mortality of 57.14 per cent. Removal of a floating organ is also condemned, its fixation in the loin having afforded only 1 death in 16 cases, a mortality of only 6.25 per cent., while that of nephrectomy is 37.5 per cent. Hence, he concludes that the "principal, if not the sole, condition in a diseased kidney that justifies a nephrectomy is a suppurative process," from whatever cause it may arise, and that the organ should be removed by the lumbar method in the event of the failure of nephrotomy.

Dr. Weir is not singular in the opinion that a suppurating kidney should not be extirpated until after the failure of a preliminary nephrotomy, no matter whether the organ be drained through a posterior incision, as recommended by the majority of operators, or through an abdominal incision, as so successfully practised by Tait. In support of this view may be mentioned the names of Billroth, Tait, Clement Lucas, Rushton Parker, Wheelhouse, and Bryant, whose opinions are recorded, respectively, in the *Wiener medizin. Wochenschrift*, No. 24, 1884, the *Birmingham Medical Review* for July, 1884, and the *British Medical Journal* for September 29, 1883, and November 29, 1884.

In further support of this view, as well as of the greater safety of the lumbar incision, we may refer to the statistics of nephrectomy and nephrotomy for suppurative lesions. Thus, of 58 cases of the former operation collated by S. W. Gross, 27, or 46.55 per cent., died. Of the entire number, 16 were examples of laparotomy, of which 10, or 61.5 per cent., perished, while 42 were instances of removal through the loin, of which 17, or 42.8 per cent., died, the percentage of recoveries in favor of the latter procedure being 18.70. Of 37 cases of incision and drainage, on the other hand, examined by the same surgeon, only 7, or 18.91 per cent., perished; and as they include four examples of abdominal nephrotomy, they may very properly be compared with nephrectomy by both methods. Such a comparison shows 27.64 per cent. more of recoveries for nephrotomy; so that we think the rule may be safely established that a suppurating kidney should be cut into and drained in preference to subjecting it to extirpation. In formulating this line of conduct, we do not lose sight of the fact that nephrotomy leaves a permanent fistule in about one-fourth of all cases, which frequently proves to be a source of much annoyance and discomfort. In this event the shrunken sac may then be removed through the loin, as was done with uniform success, in 8 of the 37 cases to which we have referred.

Another and highly important consideration which favors a resort to a preliminary nephrotomy for suppurative lesions, is that it enables us, as pointed out by Czerny, to determine with almost a certainty the condition of the opposite organ. If, after a few days of drainage, no more pus appears in the urine, the probability is that the other kidney is sound. Should the case be one of calculous pyelitis, exploration with a needle through a lumbar incision, or pressing the organ against the psoas muscle, or exploration with the hand inserted into the rectum, or catheterization of the ureters, a device rarely practicable, may solve the problem; but should the suppuration be independent of a foreign body, either Czerny's plan, or an exploratory abdominal incision, as advised by Tait and Thornton, will be required to establish the condition of the opposite kidney. Mr. Thornton, indeed, prefers removing all diseased kidneys through the peritoneum, one of his chief reasons being that the other organ can be inspected and felt. Should nephrectomy without preliminary nephrotomy for doubtful suppurative lesions be decided upon, we think, however, that the surgeon will best consult his patient's interests by making an exploratory abdominal incision, when, if it be fitted for it, the wound can be closed and the diseased organ be removed through the loin.

Whenever it is practicable, the lumbar incision is to be preferred to laparotomy. Such, at any rate, is the view held by Czerny, Billroth, Von Bergmann, Lucas, Morris, and others, who have had the most experience with nephrectomy. The largest neoplasms can, of course, only be removed through an abdominal incision, while those of medium size can be reached by an extension of the usual lumbar incision. The ordinary vertical lumbar wound will scarcely suffice for the safe removal of a diseased kidney. Hence, Czerny and Billroth recommend Simon's incision from the border of the quadratus lumborum downwards and forwards to two fingers' breadths above the crest of the ilium, which can be carried as far forwards as may be deemed necessary for the extirpation of large tumors. Weir, in his case, obtained plenty of space by making a transverse cut, from near the top of the ordinary vertical incision, outwards for nearly five inches along the edge of the ribs. In a case of enlarged kidney, containing nine calculi, in which the organ was situated more toward the middle line, Kosinski carried an incision from the space between the eleventh and twelfth ribs, parallel to the fibres of the external oblique, to a point just above the umbilicus. Through such a mixed incision, if the term may be allowed, the operation could be made extraperitoneal or intraperitoneal, according to the requirements of the case.

Of the two abdominal incisions, that of Langenbuch, carried along the outer edge of the rectus muscle, is undoubtedly the best, and is the one preferred by Thornton. It should, however, if it be possible, be reserved for the removal of large tumors, and provision for free drainage should be made by carrying a tube through the loin.

Although we have declared our preference for the lumbar incision, hard and fast rules in regard to methods of operating can as yet not be formulated. Hydronephritic and pyonephritic kidneys should certainly be opened and drained through the loin before resorting to the more severe operation. Whether movable kidneys should be extirpated, or fixed in the loin, is an open question, since we need a much larger experience to determine the value of the latter procedure in relieving suffering. Small neoplasms should be removed through the loin; larger ones through the abdomen. Such are the axioms that we feel disposed to frame from the study of the paper of Dr. Weir, and of the many communications that have appeared upon the subject during the past three years. Be they well founded or not, it is very certain that growing experience tends to restrict more and more the operation of nephrectomy, which, under the best of circumstances, must be regarded as one of the most deadly of all surgery.

UNUSUAL SITUATIONS FOR ECHINOCOCCUS TUMORS.

ALTHOUGH echinococcus tumors are most commonly found in the liver, there would seem to be almost no situation in which they do not occur. In illustration of this, M. GÜNSBURG, of Cracow, Russia, has recently reported in the *Med. Obosrenie*, 1884, No. 6, the case of a woman aged 35, who presented herself at his outdoor service, and who had not menstruated for some months. Neither fœtal heart sounds nor placental murmur were audible. She said that nine years previously she had a lung affection, during which, after a paroxysm of coughing, she expectorated a number of white vesicles and membranous shreds. Four months after her first visit Günsburg was sent for, and found her in labor, but delivery of the head was impossible on account of the presence, in the lower segment of the uterus, of a round tumor of fleshy consistence, and as large as the fist. Its upper limit could not, however, be reached by the finger. As the child was dead, Günsburg delivered it with Braun's cranioclast. The woman left her bed in the third week. Twice during the next week, white vesicles and white membranous shreds passed out of the vagina. Shortly afterwards she became ill with cough and dyspnœa, and again expectorated the same vesicles and shreds; which, upon examination, proved to be fragments of echinococcus cysts, presenting the usual stratified layers, although scolices were not found.

More careful investigation of the case revealed the liver much enlarged, extending 4.3 inches below the border of the ribs, while numerous small inequalities on the surface of the liver could be felt through the abdominal walls. Three fingers' breadth below the umbilicus was a second movable and uneven tumor 6 inches long and 4.8 inches broad, and of fleshy consistence. The uterus was enlarged and extended 1.2 inch above the symphysis pubis in the left lateral position. Examination per vaginam revealed a bladder-like swelling with thick fleshy walls. In the thorax, dulness extended much higher than was normal on the right side posteriorly.

Echinococcus tumors of the uterus are exceedingly rare. Only one other case producing difficult labor has been reported, at Isumi, also in Russia. In this instance the woman was also delivered by craniotomy. In addition to this, however, four other cases of echinococcus cysts of the lesser pelvis, in association with the non-pregnant state, are reported in Russian literature. In one case, the tumor, proceeding from the liver, was diagnosticated as an ovarian cyst and operated upon, with a fatal termination. In another case laparotomy was performed and the patient recovered.

A knowledge of the possible occurrence of such cases may serve to prevent errors in diagnosis otherwise unavoidable.

Still another unusual situation for echinococcus cysts is the neck, a case of which is reported in the *Festschrift des ärtzlichen Verein*, by Dr. Lindpainter, who was called upon to do tracheotomy in a patient who had noticed enlargement of the left side of the neck from his earliest youth; and in whom more recently a tumor as large as a fist had developed behind the sterno-cleido-mastoid muscle, forcing the trachea out of place and compressing the œsophagus. Dyspnœa resulted, while fluids alone could be swallowed, and that with difficulty. Fluctuation was discovered, and, after a couple of punctures, accompanied by the discharge of a transparent fluid, the trachea straightened itself, and the breathing became easy. Examination of the clear watery fluid revealed numerous hooklets. The cyst was subsequently freely opened and a drainage-tube temporarily inserted. Complete recovery ensued.

THE SIGNIFICANCE OF ALBUMINURIA IN STRANGULATED HERNIA.

WHILE, at first thought, it would appear that the special value of albuminuria as a diagnostic sign must diminish as the number of conditions of which it forms a part is found to increase, closer investigation is gradually proving this to be an error. It is true of this, as of all other conditions, that the more we know of it the more accurate are the deductions we may draw from its presence, although such a state of affairs may be preceded for a time by another in which doubt and uncertainty seem uppermost.

In proof of these statements, we may refer to some recent extended studies by DR. JOSEPH ENGLISCH on "Albuminuria in Strangulated Hernia," published in the *Wiener med. Jahrbücher* for 1884, Hefte 1 and 2. He concludes that, in certain strangulations of the bowel, certain derangements in the renal functions ensue, including albuminuria, and in extreme degrees anuria. In what manner these derangements are produced—whether through scanty water absorption, the loss of liquid by vomiting, irritation of the kidney by the absorbed altered intestinal contents, or by deranged innervation of the intestine—he leaves to future researches, by the aid of chemistry and instruments of precision, but he is inclined to ascribe them to the presence in the blood of absorbed products of decomposition.

The albuminuria thus caused has both a diagnostic and prognostic value. When present, we may infer that a loop of gut is being strangulated, while, if the other symptoms of strangulation are present without albuminuria, we may conclude that it is an appendage of the bowel which is incarcerated, or a portion of the omentum, or that we have an inflamed hernia to deal with. The presence of the albumen also shows that the strangulation of the bowel has reached a degree which is dangerous to the individual. This is still more certain if there are found in the urine cellular elements derived from the kidney, its pelvis, the bladder, and ureters. The presence of the symptoms of collapse, with sudden increase in the quantity of albumen, announces the supervention of gangrene. The addition to the above of nervous symptoms of a decided character point to uræmia.

As to treatment, where albumen is present, only gentle taxis should be used, and, should this fail, section should be performed, and experience has shown that resection of the bowel, under these circumstances, is often a successful operation.

These are very striking results, and at first thought seem to promise too much. They are, however, easy to refute or confirm. Englisch indeed says of them that they are only a contribution to the symptomatology of strangulated hernia, the exact value of which can only be determined by numerous observations, to which we hope American surgeons will not be slow to contribute.

THE TRANSMUTATION OF BACTERIA.

THE subject of the genetic relations of the different varieties of cleft fungi is admitted on all sides to have a most important bearing upon the question of the germ theory of disease. The relation of the hay bacillus or bacillus subtilis to that of anthrax is a subdivision of this subject which has claimed considerable attention, and at the recent Congress of German Naturalists and Physicians, PRAZMOWSKI read a paper upon it, to the more important points of which Dr. Gaffky calls attention in the *Deutsche med. Wochenschrift*, November 20th.

It will be remembered that Buchner, in 1880, announced that he had, by appropriate cultivation, converted the bacillus of anthrax into the hay bacillus, and *vice versa*, although he himself had said that the mode of germination was different in the two bacilli. Prazmowski has called attention to the fact that the significance of this difference has not been appreciated, while Koch, Gaffky, and Klein have also shown that Buchner's experiments were defective, and the conclusions based thereon not justified. Prazmowski has shown how that, while in the hay bacillus the spores so germinate that the young rods burst forth laterally, that is, vertically to the longitudinal axis of the spore, in the anthrax bacillus they perforate the membrane in the direction of the longitudinal axis, at one of the two ends.

Prazmowski has further demonstrated that it is not true that under certain conditions of cultivation one organism is developed, and under others, another, but that we have to do throughout with two distinct

bacteria, and that the mode of germination of anthrax spores is equally characteristic and unalterable as that of the hay bacillus, and *vice versa*, and that this difference is due to the anatomical structure of the spore-membrane. Still another anatomical difference between the anthrax bacillus and the hay bacillus is found in the fact that the former is unprovided with cilia, while the bacillus subtilis has, as Brefeld has shown, two long cilia at each end. From all of these considerations, Prazmowski concludes that the genetic relation which Buchner sought to establish between the anthrax bacillus and the hay bacillus does not exist.

If these conclusions are confirmed, a most important objection to the acceptance of the germ theory is removed; and we feel bound to state that, in our judgment, the evidence of Koch and Prazmowski outweighs that derived from the apparently less guarded experiments of Buchner, although the latter are supported by Nägeli.

REVIEWS.

ON HEALTH RESORTS.

1. WIESEN AS A HEALTH RESORT IN EARLY PHTHISIS, WITH DIRECTIONS FOR CLOTHING, DIET, AND EXERCISE IN THE SWISS ALPS DURING WINTER. By A. T. TUCKER WISE, M.D., L.R.C.P., M.R.C.S. Formerly Visiting Physician to the Infirmary for Consumption, Physician to the Western General Dispensary, etc. Pp. 68. London: Baillière, Tindall & Co., 1883.

2. THE ALPINE WINTER CURE, WITH NOTES ON DAVOS PLATZ, WIESEN, ST. MORITZ, AND THE MALOJA. By the same Author. Pp. 83. 1884.

THE latter of these little volumes, which is largely a reprint of the former, constitutes a useful guide to invalids driven by pulmonary maladies to Switzerland, and is an important contribution to a solution of the sanitary problem in regard to the value of high altitudes in phthisis. Our author is a strong advocate for the advantages derivable by *poitrinaires* from a dry frosty atmosphere in localities elevated at least five thousand feet above sea-level, and claims that the drawbacks for patients in the first stage of consumption at least, are chiefly due to faulty sanitation of dwellings and their local surroundings. The influence of diminished pressure in producing hæmoptysis might well have been considered more at length, but much valuable advice is given in regard to diet, clothing, exercise, and so forth, at these resorts. It is so customary for British reviewers to triumph over any typographical errors or imperfections in the mechanical execution of works published in this country, that we cannot resist calling their attention to the word "damnness" near the bottom of page 13, which, as applied to the climate of Wiesen, affords an evidence either of careless proof-reading or of profanity, which we would be sorry to see displayed in an American book.

SOCIETY PROCEEDINGS.

NEW YORK SURGICAL SOCIETY.

Stated Meeting, December 9, 1884.

THE PRESIDENT, ROBERT F. WEIR, M.D., IN THE CHAIR.

THE discussion being in order of Dr. Weir's

REMARKS ON EXTIRPATION OF THE KIDNEY

(see THE MEDICAL NEWS, December 27, 1884, p. 707),

DR. HALSTED said that, irrespective of the question of comparative risk, one would admit that neoplasms of the kidney may be more satisfactorily dealt with through the abdominal incision. Certain operators who were complete masters of the technique of abdominal surgery would be justified in preferring and practising laparotomy in the removal of kidney tumors, whereas the great majority of surgeons may prefer, for the present, to confine themselves to the lumbar incision. Each surgeon should, therefore, be the conscientious judge of his own attitude. Thus it is easy to comprehend why von Bergmann, Thornton, Tait and others should adopt the abdominal incision; and, although Tait will not confess the secret of his success, it is quite apparent to others that it is to be ascribed to operative skill and most careful asepticism. Dr. Halsted was inclined to advocate, for the abdominal incision, a line lateral to that recommended by Langenbuch, for two reasons: 1st, to avoid, if possible, subsequent hernia, and 2d, to enable one, early in the operation to sew off the operation field from the general peritoneal cavity. It seemed to him that the suggestion from Hagen-Torn (*Centralbl. für Chirurg.*, No. 35, 1884), to cut through the musc. rectus abdominis rather than through the linea alba to prevent hernia after ovariotomy, was a good one. He advised also that especial attention should be paid to the sewing of the incision through the oblique and transverse abdominal muscles. A cross-cut of such a wound would give two lines, irregularly concavo-convex, demonstrating, that the various tissues divided had retracted unequally, and that to make the cut surfaces offer the broadest possible face, it would be necessary to convert the undulating into plane surfaces. This could be done by one or more rows of buried sutures aimed at the concavities. To enable one to operate outside of the peritoneal cavity, Dr. Halsted recommended a procedure to which he had resorted in his case. The abdominal cavity was entered along Langenbuch's line. In future cases he would enter outside of this line, as just described. In front of the carcinomatous kidney was the descending colon. The parietal peritoneum was a second time divided about three inches from the outer border of the colon and the kidney readily removed. The hemorrhage from the kidney-bed was rather profuse, from, perhaps, about one hundred oozing points. This was only partially controlled by about as many catgut ligatures. The peritoneal cavity was then closed off from the field of operation by uniting the mesial edges of the twice-divided peritoneum. Thus an extra-peritoneal cavity was formed, bounded postero-externally by the kidney-bed and the abdominal parietes which had been

robbed of its peritoneum; antero-externally by the isolated strip of peritoneum, the margins of which were the lateral edges of the original parietal incisions, and internally by the outer surface of the somewhat curtailed peritoneal cavity. The extra-peritoneal cavity was drained (anteriorly) by two large rubber tubes. The hemorrhage stopped at once from intestinal pressure, and convinced the operator that he might have spared himself much trouble and the patient some shock, if, instead of applying so many ligatures, he had earlier closed off the peritoneal cavity as described. The patient recovered rapidly from the shock of the operation and passed a comfortable night. In the morning he developed uræmic convulsions which recurred at intervals until his death, about twenty-seven hours after the operation. He secreted in this time only ℥jss of urine. A complete autopsy was not allowed. Injection of the extra-peritoneal cavity demonstrated that the peritoneal cavity had been completely shut off. In the latter was about ℥j of slightly stained serum, but no other evidences of peritonitis. Microscopical examination revealed advanced interstitial disease of the right kidney.

Dr. Halsted thought it fair to attribute the convulsions to the condition of the right kidney, for the patient's pulse was too strong to make it probable that diminished blood-pressure alone might have been the cause of the oligouresia.

FRACTURE OF THE BODY OF THE TWELFTH DORSAL VERTEBRA.

Dr. E. L. Keyes presented a specimen of fracture of the spine and dislocation forwards, accompanied by the following history: George H. McM., twenty-eight years of age, by occupation a driver, was admitted to Bellevue Hospital, November 15, 1884. His family history was good. The patient had a chancre six years ago. On November 18, 1884, the patient was standing in front of his horses when they started to run, knocked him down, and the axle of the truck struck him on the back as it was dragged over him. The wheels did not touch him. He was at once paralyzed. The patient was taken to Chamber's Street Hospital, and transferred to Bellevue on the following day, where he was examined and found to have total paralysis of motion below the umbilicus; sensation was not entirely lost, but was much blunted. It persisted for a long time, but could not be referred at all accurately to its proper source. The nature of the sensation was not recognizable. There was complete retention of urine. There was pain on pressure over the spinous process of the twelfth dorsal vertebra. This process was separated by twice the normal interval from that of the eleventh, and seemed to be displaced forward. The patient was placed on a water bed, and the urine was drawn by catheter three times a day.

November 16.—The patient vomited occasionally during the night, and had a burning pain near the left anterior superior iliac spine.

17th.—Considering that the elevation of the displaced spinous process and lamina was the only possible means of relieving the spinal cord from pressure, Dr. Keyes asked his house-surgeon, Dr. Pinkerton, to cut down upon the spine, and remove the depressed bone. A crucial incision was made, the muscles separated from the spinous processes, then pulled aside with retractors. The articular processes were then felt to be displaced from one another, admitting the index finger between their surfaces, the inferior of the eleventh and the superior of the twelfth dorsal vertebra. It was impossible to make out any fracture of the laminæ of the spinous process and laminæ of the eleventh, and the spinous process of the tenth dorsal vertebra were removed with the *rougeur*, the latter simply to give room to work in. There was a slit in the dura about one-fourth of an inch in length, which was accidentally increased to three-eighths of an inch by being caught between the forceps and the bone. The spinal cord felt firm and normal. After removal of the bone the cord was entirely free from pressure. The operation was thoroughly antiseptic. A rubber drain was inserted and the wound was dressed antiseptically. Stout zinc splints were applied to the back.

18th.—Temperature 99° to 100° F., and the patient feels a tingling in his feet, but is otherwise perfectly comfortable.

19th.—Examination of the urine showed specific gravity of 1010, albumen and blood. Temperature from 99° to 103° F.

20th.—At 1 P.M. the patient had a chill. The temperature rose to 104.75° F., and the wound was dressed. No pus was found; discharge only slight.

21st.—Temperature continued high. The patient feels badly, but has no pain, no increase of paralysis or of anæsthesia. Incontinence of urine and involuntary evacuations from the bowels continued.

22d.—The patient died at 5 P.M.

Autopsy. The appearance of the wound was healthy. Primary union of the incision. All of the organs normal except the spinal cord. The portion between the tenth and twelfth dorsal vertebræ was very soft. There was meningitis and acute ascending myelitis.

Dr. Halsted referred to a case in which he had trephined the vertebral column for a rotation-luxation forwards of the twelfth dorsal vertebra. The patient, male, aged about fifty, had been so caught between the top of an ascending elevator and a beam as to exaggerate the lower part of his dorsal arch. He was at once brought to Roosevelt Hospital (September, 1884). Examination revealed a depression and loss of spinous process at about dorso-lumbar junction. Just below the depression, on a line with the dorsal spines, was a sharp bony process which Dr. Halsted believed to be the transverse process of the vertebra below the dislocated one. There was complete paralysis of motion and sensation in the lower extremities. The abdominal reflexes seemed to be exaggerated, and all reflexes, superficial and deep, below these were absent. Retention of urine, and, two days later, incontinence of feces. Albumen and casts in urine. On the third day after receipt of injury, operation as follows: An incision in the median line, through badly contused soft parts, was made over lower dorsal and upper lumbar vertebræ. The spine of the dislocated and rotated twelfth dorsal occupied the frontal and sagittal level of the left upper articular process of the first lumbar vertebra. The right transverse process of the first lumbar vertebra, with its fractured tip, was thus driven into the muscles of the loin. Over the spine of the last dorsal vertebra were traces of central nervous matter. The left articular process of the first lumbar and spine of twelfth dorsal

being cut away, a strong Langenbeck's hook was inserted in the laminar fork of the twelfth dorsal. The patient was then doubled ventrally, and at the same moment pressure exerted by the hands of an assistant from behind forwards on the lumbar vertebræ, and traction backwards, by the Langenbeck's hook, of the twelfth dorsal vertebra reduced the displacement with a snap. Reduction of the dislocation was easily maintained. Patient did not, apparently, suffer shock from the operative interference, but died seventeen hours later. One of the internes stated that, shortly after the operation sensation extended almost to the knees. Before the operation, there was no sensation in parts below the distribution of the first lumbar nerve.

Autopsy. Double pleurisy with fracture of seven ribs on the left and of four on the right side. Both lungs œdematous. Fluid in pericardium. Small granular kidneys. Operation wound. Dislocation remains reduced. Comminuted fracture of body of first lumbar vertebra, a small opening into left pleural cavity between eleventh and twelfth ribs. Spinal cord (lumbar enlargement) completely severed and considerable effusion of blood in dural sac in the dorsal region.

DR. SANDS said that in Dr. Keyes's case the persistence of complete paraplegia after the removal of the depressed bone by trephining rendered probable a disorganization of the cord opposite the seat of fracture, which would make any operative procedure unavailing.

DR. HALSTED was quite sure that Brown-Séquard had demonstrated, experimentally, that wounds of the spinal cord may heal and its function be restored. Also that other investigators had observed regeneration, in animals, of excised portions of the spinal cord, and, furthermore, he thought there was clinical evidence sufficient to make it probable that, even if crushed, the cord might regain its function.

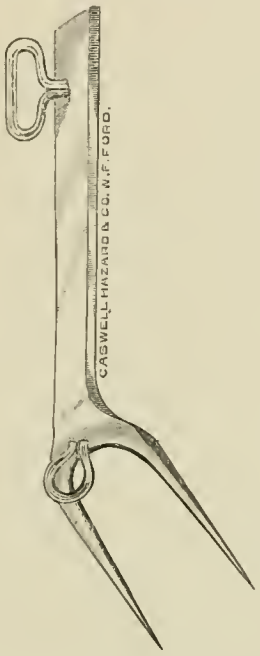
DR. STIMSON remarked that the question of trephining for fracture of the spinal column had been discussed for many years. The fact that the pressure which is sought to be relieved is made on the front of the cord by the displaced body of the vertebra, in a region which is not accessible for operation, indicates that the only value which trephining is likely to afford is that observable in Dr. Halsted's case, namely, to afford opportunity for the introduction of an instrument with which to correct the deformity.

DR. KEYES thought the fact of the existence of acute ascending myelitis, with blood-clot opposite the sixth vertebra, above the point of injury, would have made any other procedure inoperative in this case. The pressure seemed to be relieved at the time of the operation, but probably it was not.

FORK FOR FRACTURE OF THE PATELLA.

DR. L. A. STIMSON showed a fork to be used in the treatment of fracture of the patella. He had expected to show a patient upon whom he had used it with success, but the man had failed to come.

In using Malgaigne's hooks he had found it difficult to insert the hooks deeply enough to adjust the screw that connects them, and he had devised this fork as a substitute. The fork is of iron, two-pronged, the prongs bent in the flat at an angle of forty-five degrees at their junction with the shaft. The prongs are one inch long and three-quarters of an inch apart; the shaft is about three inches long. There is a small ring at the base of the prongs for the attachment of an india-rubber cord, and another at the end of the shaft for the attachment of a bandage encircling the thigh.



The instrument is used by inserting the prongs through the skin above the patella and pressing them down until they rest against the upper border of the upper fragment; the shaft lies along the median line of the front of the thigh, and is prevented from tilting or moving to either side by a roller bandage wrapped around it and the thigh. Traction downward is made by a piece of India-rubber tubing, one end of which is attached to the ring at the base of the prongs and the other made fast to the front of the skin by adhesive plaster. The introduction of the prongs can be made easily and painlessly by chilling the skin with ice and making two punctures with a knife.

In the case he had treated with this fork the fracture was transverse and the separation about an inch. The separation was readily overcome by the traction. The patient made no complaint during the five weeks the instrument was in place. The patient was kept in bed, with the limb suspended in a wire gutter, and the punctures kept dusted with iodoform; there was no inflammatory reaction about them, and only a slight discharge. The lower fragment was kept gently pressed upward by an oblique turn of a roller bandage. On the removal of the fork, five weeks after the occurrence of the fracture, the fragments were closely and firmly united, without independent mobility. As a precaution, a plaster bandage was then applied, and not removed until the end of the ninth week. The knee could then be flexed nearly to a right angle, and there was still neither independent mobility nor separation of the fragments.

DR. J. L. LITTLE exhibited Haid's electric battery, designed to give electric light to aid in the performance of operations within cavities.

CINCINNATI ACADEMY OF MEDICINE.

Stated Meetings, December 1 and 8, 1884.

THE PRESIDENT, W. H. WENNING, M.D., IN THE CHAIR.

(Specially reported for THE MEDICAL NEWS.)

DR. THAD. A. REAMY reported the following

FATAL CASE OF MORPHIA NARCOSIS FROM THE HYPODERMIC ADMINISTRATION OF A QUARTER OF A GRAIN.

Mrs. L., aged 28, a blonde of medium height, light eyes, phlegmatic temperament, large, robust, and well developed, weighing 165 pounds. She menstruated first at the age of 12, married at 20, and at the age of 23 gave birth to a healthy male child. The labor was natural. She never had a miscarriage. Her health and menstruation previous to confinement were both normal. Since her confinement, and during the time that she was under observation, the most important subjective symptom was pain in the pelvic region, constantly present, but exaggerated at the menstrual periods. She had also a constant feeling of languor since her confinement, especially after any exertion, when the localized pain was also increased. Her strength was not in harmony with her development and physique. Physical examination revealed no lesion of heart or lungs. The kidneys were supposed to be sound, in the absence of any symptoms to indicate disease. Examination *per vaginam* revealed a slight laceration of the cervix uteri and of the vaginal portion of the perineum. Some chronic cervical endometritis was also present with the characteristic discharge. In the bottom of the cervical laceration there was a firm cicatricial plug which was supposed to be the cause of the reflected pain.

At twelve o'clock, on the 29th of the month, the patient was operated upon for the cure of these two difficulties. The cervix was operated upon first, and three sutures were inserted for the closure of the lips after they had been denuded. The vagina was then operated upon. The latter operation did not involve the external perineum, but only the vaginal portion, as stated. The two operations together did not occupy more than from twenty-five to thirty minutes. After ten or fifteen minutes had been given for the patient to recover from the anæsthesia, she was taken to her bed. Although the quantity of ether used had not been measured, the time of the operation was so short, and the patient was so easily anæsthetized, that she could not have taken a large quantity. At no time during the operation was she profoundly anæsthetized. There was no stertorous respiration or even momentary stoppage of respiration. Dr. Hirons saw her two or three times after she was placed in bed, and was impressed with the rapidity with which she recovered from the influence of the ether, as well as with her normal respiration and normal, full pulse. Although she complained of pain, it was not of marked severity. A half-hour later, he was summoned to her room and found her suffering severe pain in the perineum in the locality of the sutures, as is commonly felt after such operations, and more especially in patients who are rather obese. She stated, upon inquiry, that she had never taken morphia or opium in any form. She was perfectly rational, conversed freely, and manifested no signs whatever of lingering anæsthesia; but was in excellent condition. Dr. Hirons then administered by hypodermic injection a quarter of a grain of morphia, dissolving the powder in fresh water, adding a ninety-sixth of a grain of atropia. In filling the syringe, a few drops of the solution were lost, so that he remarked that it would probably be necessary to repeat the dose in a few hours. In twenty minutes she ceased to complain of her pain, and for an hour conversed cheerfully with her friends. An hour and a half later, he was summoned to her room, and found the patient in an unconscious condition, so profound that he could not arouse her. Her breathing was difficult and shallow; her pulse was rapid but weak; her skin was cold and moist; the pupils closely contracted, and it was apparent that she was suffering from opium narcosis. Cold water was dashed upon the face, heat was applied to the extremities; the one-ninety-sixth grain of atropia was administered hypodermically, and all the usual methods were applied to resuscitate her. At the same time Dr. Reamy was summoned. When he arrived half an hour later, the patient was in about the condition described. Another dose of one-ninety-sixth of a grain of atropia was administered hypodermically. Coffee was given by enema; ammonia and brandy were repeatedly administered subcutaneously; mustard was applied to the chest and abdomen, and every effort was made by heat and frictions to the extremities, flagellations, etc., to arouse consciousness, but without success. The faradic current was applied, one pole being placed over the region of the phrenic and pneumogastric nerves, the other over the diaphragm. This for a time seemed to improve the breathing and the pulsations of the heart, but only for a time. Artificial respiration was now resorted to and persisted in until the heart had ceased to beat. As the pupils had not responded to the atropia already administered, another dose of the $\frac{1}{120}$th of a grain was given. All remedies failed, however, and death occurred eight and a half hours after the first administration of morphia, supervening upon a state of profound coma, the action of the heart becoming gradually more feeble, the breathing constantly becoming slower, until it amounted to only four or five respirations per minute.

DR. S. NICKLES remarked that, while very serious symptoms have been known to follow the administration of even less than a quarter of a grain of morphia, the case just reported was the first, so far as he was aware, in which the death of a healthy adult resulted from so small a dose. According to Husemann (*Die Pflanzenstoffe*, 2d edition, 1884), the smallest dose which has caused death was one grain. This had been given to a girl, aged nineteen years, in divided doses, within six hours. Death resulted in thirteen hours. Husemann also refers to a case, reported by Taylor, in which half a grain was supposed to have destroyed an unhealthy patient, but considers it a doubtful case. Not infrequently, after hypodermatic injection of small doses, there takes place sudden prostration, with marked giddiness and very difficult breathing. From the rapidity of action, it is inferred that the medicine was thrown into a blood-vessel, for it is now well established that such effects take place in a few seconds after intravenous injections.

The case reported by Professor Reamy was a doubt-

ful one. The patient died eight hours after the subcutaneous injection of a quarter grain of morphia with such symptoms as are usually produced by large or toxic doses. Administered subcutaneously, morphia produces its characteristic action upon the cerebrum in from five to twenty minutes. But in the case reported the narcotism did not take place before the lapse of an hour. Then the patient became comatose, the pupils contracted strongly, the respiratory movements became slow and shallow, and the pulse rapid and feeble. Notwithstanding the use of the various means usually resorted to in morphia poisoning, the patient succumbed in about eight hours. No post-mortem examination was made, and hence, to say the least, the case is a very doubtful one. It is not unlikely that a post-mortem examination would have revealed a cerebral hemorrhage.

However, if the case be considered one of medicinal poisoning, by so small a dose as a quarter of a grain of morphia, it will show that such a dose, administered subcutaneously to a patient unaccustomed to the action of morphia, is not a safe one. Some authors insist that the first hypodermatic dose shall not exceed one-sixth of a grain.

The case is certainly a remarkable one, in so far as death resulted, notwithstanding that the patient, a healthy, strong woman, was seen soon after narcosis began, and was at once placed under treatment. At no time did the measures employed diminish the coma, increase the respirations, augment the force of the pulse, or otherwise alter the symptoms which were supposed to be due to the quarter grain of morphia. This negative result of the prolonged efforts to save the patient is sufficient to justify the opinion that there was present some other cause of the coma. Usually, in poisoning by lethal doses of morphia or opium, the antidotal and antagonistic treatment, for a time at least, produces very obvious amelioration of the symptoms. And when these measures are efficiently employed, they usually rapidly improve the symptoms and save the life, even when many times the lethal dose has been given.

Morphia and opium poisoning being so frequent, the speaker thought it proper to make a few remarks on the treatment. Generally the poison is taken *per os*. In such cases the first indication is the removal of the contents of the stomach. Morphia is slowly absorbed, and, even after the lapse of hours, sufficient may remain in the stomach to destroy the patient. If the patient be seen early, before coma has taken place, means to excite vomiting are proper. Irritant emetics, especially sulphate of zinc and sulphate of copper, may be employed. But these emetics should be used in the ordinary doses, and not in quantities of half a drachm, as recommended by some authors. If the stomach is insusceptible to the action of several ten-grain doses of sulphate of zinc, larger doses will prove equally inactive. Absorption of the salt will occur, and the depressing effect of the morphia will be increased. Even when the stomach is not benumbed by a narcotic, moderate doses of sulphate of zinc more certainly produce the emetic effect than large doses. Toulmouche observed that doses of from six to twelve grains constantly cause vomiting, while doses of fifteen grains or more constantly failed to have this effect, while they generally produced purging. The vomiting process may be hastened by titillation of the fauces and the administration of large quantities of tepid water. As an antidote, tannic acid should be given; it will render the morphia less soluble, or, if the latter be in solution, will form with it a salt which is less readily absorbed. From twenty to forty grains of tannin will usually suffice.

Partly as an antidote, and partly as an antagonist, strong infusion of coffee should be given. Its tannic acid will retard the absorption of the morphia, while its active principle—the caffeine—will antagonize the general action of the poison by stimulating respiration, augmenting circulation, and elevating the temperature. If the patient be comatose, vomiting cannot be induced. Then the stomach-pump should be employed to evacuate the contents of the stomach. Instead of water, it will be prudent to employ an infusion of coffee to wash out the stomach.

The second indication when the poison was ingested, and the only one when it was thrown into the subcutaneous tissue, is stimulation of the central nervous system, especially the respiratory centre. Various measures are recommended, as flagellation, friction of the surface, ambulation, painful applications of the faradic current, and douches of cold water. When the patient has not yet become comatose, these measures are often useful, but usually completely fail, after profound coma and great prostration have taken place. Liebermeister reported a case of severe morphia poisoning in which the douche of cold water, applied at intervals of ten or fifteen minutes for six hours, proved successful. At the same time, however, the patient was kept in a warm bath. Perhaps the latter measure had much to do with the recovery, for heat is a powerful stimulant of the respiratory centre and the heart. During profound morphia narcosis the temperature of the body falls several degrees. Hence, the patient's room should be kept warm, the patient should be covered with warm blankets, and bottles containing warm water or heated bricks should be applied to his extremities. Frequently all these measures fail to increase the respiratory process and the heart's action. Then recourse must be had to the most powerful means of stimulating these functions—namely, artificial respiration and subcutaneous injections of atropine.

Various methods of practising artificial respiration have been recommended. Schüller succeeded in two cases with the following simple method: Applying his hands along the thorax, from above downward, he grasped the right and left borders of the chest and forcibly drew the ribs outward and upward, and then quickly pressed them back towards the abdominal cavity. These movements were repeated rhythmically, so as to correspond to the normal respiratory movements. An assistant at the same time maintained complete flexion of the thighs in order to relax the abdominal parietes. In order to restore the normal frequency of the respirations, the faradic current has been strongly recommended. The electrodes are applied in such a manner as to cause the current to pass through the phrenic nerve—first on one side, and, after an interval, on the other. This may be accomplished by firmly applying one electrode just behind and below the middle of the posterior border of the sterno-cleido-mastoid muscle, and the other electrode in the supra-

clavicular space. As soon as the diaphragm has contracted, one of the electrodes should be removed, and the abdominal surface should be compressed in order to promote expiration. After a few seconds the current should again be applied, and this be followed by abdominal compression. The application of the current should be repeated about fifteen times in a minute.

Recourse should also be had to atropine. Its utility consists not in a complete antagonism to morphia, but in an antagonistic action of the respiratory centre and heart. Hence the condition of the respiratory and circulatory functions is the index to the use of atropine. Abnormal slowness of the respiratory process and feebleness of the pulse indicate its use. According to the reports of good observers (Johnson, Binz, Robert, Fothergill), soon after the hypodermatic injection of atropine, the respirations become accelerated and the pulse stronger, How much atropine should be injected? Evidently this will depend on the condition of the functions to be excited, and the effect of the first moderate dose. Some authors recommend the small dose of the fortieth of a grain. If the respirations should become increased in frequency, a few repetitions of this dose may suffice; but should no effect have taken place in ten or fifteen minutes, the next dose should be larger—say one-twentieth or even one-tenth of a grain. Johnson, who had perhaps greater experience in the treatment of opium poisoning than any other physician, having treated more than three hundred cases, employed large doses, from one-third to one-half of a grain. According to him, the cold douche, artificial respiration, the application of electricity, and all kinds of stimulation are usually of no utility, while the administration of atropine is speedily followed by wonderful effects, the pulse becoming stronger, the respirations more rapid and tranquil, and the coma a peaceful slumber, from which in a few hours the patient awakens fully conscious.

DR. P. ZENNER remarked that it seemed to him that atropia had been rather too freely administered, since atropia antagonizes the action of morphia on the heart, as well as on the respiration, and in this case the heart's action was too rapid, instead of too slow. Was it not possible, then, that the atropia only exaggerated the injury already done to the heart? In regard to the application of electricity in cases of this character, he had no faith in the efficiency of the remedy further than the action it had in stimulating the peripheral centres, and through them acting on the circulation, the impulse being finally carried to the heart. He thought that the best method was to apply a strong current to the skin by means of the electric brush.

DR. J. T. WHITTAKER, in renewing the discussion, said that the Academy was to be congratulated in having received so faithful a report of a case that had turned out so unfavorably. He also congratulated the reporters of the case for having had the courage to present a report of this kind. If all the cases of mysterious death were reported to medical bodies, the profession would be benefited rather than suffer.

The most powerful weapon that we have, the "*magnum donum Dei*," has been assailed in this case. We might feel the consternation of soldiers who learned that their chief weapons were dangerous to themselves. When a case of this kind occurs, we want to be entirely sure of the accuracy of the reported facts; exactly how much morphia was given, how it was given, under what circumstances. We must question the competency and the credibility of the witnesses. In this case he was personally acquainted with the physician who administered the drug, and he knew him to be perfectly competent and trustworthy, inasmuch as he had been for a year his assistant at the hospital. The physician administered the morphia from a powder of known quantity, freshly dissolved in a spoon—a practice which it is probable he had learned from the speaker, for that is the method he employs and teaches. The atropia must necessarily have been added from a solution to the powder. The speaker expressed a desire to know how the powder appeared to the physician as he dissolved it, whether it appeared large or small; whether it was in crystal or in fine powder, for a given quantity pulverized appears not more than a quarter or a sixth as large as the same quantity in crystals. A mistake might have been made in this way, for we are all familiar with the manner in which druggists divide their powders. It is stated in this case, on the authority of several witnesses, that the druggist was cautious and careful. The question next arises, Did the accident occur on account of the morphia alone, or were there other agencies that influenced the result? We must consider, first, the operation; second, the ether; third, the atropia; fourth, the possibility of compression from cerebral hemorrhage, and, fifth, the possibility of the formation of a thrombus. All these questions would have to be discussed if the case were brought up before a court of justice.

The operation was a trivial one, and the patient appeared to recover perfectly. She recovered properly also from the ether. Had the anæsthetic used been chloroform, we would have had to consider the possibility of a collapse even some time after recovery, but with ether this is not the case. It would be barely possible to have such a result from ether.

The ninety-sixth of a grain of atropia could not possibly have done fatal harm. The smallest dose of this drug that the speaker knew of having caused a fatal result was two grains. There remained only the question of apoplexy, thrombus, and morphia. The patient was too young for cerebral hemorrhage, and she had no heart disease to account for an embolus. Very vague ideas, he said, prevail regarding the formation of a clot, a thrombus. It appears to be generally believed that all that is necessary to the formation of a clot is to have the circulation stopped. That is not true. Blood coagulates in a vessel in which the endothelial covering of the internal coat of the vessel has been broken up or diseased in some way. There is nothing that so quickly causes disease of the endothelium as septic poison. There was, however, nothing in the case under discussion that could have produced an injury of the endothelium. There was no infectious process. There was no inanition, no marasmus to have impaired the vitality of the endothelium. Moreover, the signs of morphia poisoning were present in the individual. The pupils were contracted; the face was suffused and cyanotic. As stated by a previous speaker, morphia kills by attacking the respiratory centres of the brain; when an individual dies by morphia, he dies asphyxiated. There was the additional fact in this case that the res-

pirations were reduced to six per minute, though the rapidity of the heart was increased, contrary to the rule. He differed from one of the previous speakers in his statement that morphia has no action upon the heart. According to the experiments of Witkovski, toxic doses diminish very decidedly the frequency of the heart. There were formerly different opinions expressed in regard to its action on the eye. In the celebrated Castaign case, Orfila declared that morphia always contracted the pupils, while Chaussier maintained that it sometimes dilates them. Now, however, we know that it at first contracts them, and that as soon as the stage of asphyxia comes on, the pupils often dilate. Mistakes have been made by physicians who saw cases only after some time, and observed only the dilated condition of the pupils.

In regard to the amount of morphine that will produce a fatal result, the speaker said that Taylor, in his *Jurisprudence*, reports that five cases are on record in which death was produced by a single grain; but a large number of cases have been reported in which the equivalent of less than one grain has caused death. A drachm of the tincture of opium is the smallest amount of this preparation that has produced death in the adult.

Opium poisoning is the most common of all. In England, from 1837 and 1838, there were 527 cases of poisoning, and, of these, 198 were by opiates, while of arsenic there were but 185. Guy, in his report for 1852–56, says that half the cases of poisoning in these years in England were from opiates.

Galtier reports eighty-three fatal cases of poisoning in New York in 1880–83, of which thirty-nine were by opium. In recent years opium poisonings continue to increase.

It is more important for us to know that the great majority of the cases of opium poisoning are not the result of intention—that is, suicidal—but are accidental medical cases.

In all cases it is necessary to consider the question of age, of habit, of circumstances and condition. The question of age could not enter in this case; neither need the question of habit be considered. The danger of opium in early life has been thoroughly discussed. The most significant fact is the statement made by Guy that over two-thirds of the fatal cases are children under the age of five. This patient had no opium habit. The tolerance to opium is something wonderful, but the opiophage constitute a respectable contingent of the fatal cases. They resume it in large doses after having ceased to take it for a time, and fall easy victims to its toxic effects.

Husemann reports the case of a woman with cancer who took twenty grains a day; Credé a case in which fifty-two grains was the daily dose. Albin Eder's preacher took at least forty-five grains of morphia a day. Otis reports a patient who injected, hypodermatically at a single dose, sixteen grains; Burkhardt a case in which thirty grains were injected; and the speaker had a patient who used hypodermatically twelve grains at a time, usually repeating the dose three times daily. It is not infrequently that accidents supervene in these cases, for the individual having, to a great extent, broken off the habit, or reduced the quantity, returns to it, and is unable to endure the larger dose.

He agreed with a former speaker in his statement that morphia has the same effect whether taken hypodermatically or by the stomach. The only difference is in regard to time. Husemann states decidedly that there is no proof that morphia acts any more powerfully hypodermatically than by the stomach, but that it is only more prompt. If all the morphia be absorbed from the stomach, the effect is the same. As a rule, it is all absorbed, and the same effect is soon produced as when taken by the stomach.

On the other hand, there are individuals who cannot take opium at all without danger. In other words, there is an opium idiosyncrasy. We know that some people require twice as much as others to produce sleep under the same circumstances.

In regard to this inability of some persons to take morphia, he referred to the case of deep narcosis reported by Christison after seven drops of the tincture, and related a case that he had himself seen, with another member of the Academy, in which, after the administration of a half grain of morphia in two doses, they were compelled to watch the patient for twenty-four hours; and a case in his own practice in which he had administered five grains of Dover's powder, notwithstanding the protestations of the patient, because he did not credit her statements, and he was compelled to watch with her all night. Viber had a case that was poisoned by two milligrammes—about the thirtieth of a grain. Fortunately, he remarked, such cases are so extremely rare, that the accuracy of the statement is always questioned.

Referring to the statement that the patient did not exhibit signs of intoxication until an hour and a half after the dose had been administered, he said that there was nothing remarkable in the fact. It is not at all uncommon for the remedy to act in this manner.

Christison reports a case in which ten hours intervened between the ingestion of an ounce and a half of laudanum and the narcotic effects. Taylor mentions a case of interval of three hours, during which time the individual walked the room, and another case of an individual who, after taking half an ounce, talked two hours with a neighbor before the toxic effects supervened. Moore's patient walked about one hour and a half after the enormous dose of seventy-five grains of morphia. More numerous and more dangerous are the so-called cases of secondary asphyxia, in which the patients recover, and die in twenty-four to forty-eight hours of a relapse. Such phenomena are explained upon the assumption that the remedy is not at all or not all absorbed for some time.

In conclusion, he stated his belief that the case reported had been a clear case of morphia poisoning, and, as for the treatment, he thought all had been done that was justifiable, unless it had been a bolder use of atropia.

Were he called upon to treat a case of poisoning by the hypodermic use of morphia, he thought that he would give not less than a tenth of a grain, and, if this did not have the desired effect, he would repeat it until a half or even a grain had been given. All the measures used are with a view to stimulate the respiratory centres until the morphia is let loose from its combination with the protoplasm of the nerve cells. Crecy had a good result in one case from the inhalation of

oxygen, a treatment in scientific accord with the indication in a case. Unfortunately, the treatment is not practicable in most cases, and we must reply upon coffee, flagellation, faradization, artificial respiration, and atropia.

DR. P. S. CONNER remarked that the case under consideration was of more interest to surgeons than to those engaged in medical practice, for morphia is the strongest support of the surgeon. He would feel exceedingly sorry if the report of a single case or any number of cases of death from so small a dose should lessen the confidence that we have in the remedy. He agreed perfectly with the last speaker in attributing the death to an idiosyncrasy. The patient was not able to tolerate an ordinary dose. The question of idiosyncrasy is an exceedingly interesting one. Every one has peculiarities at one time that he has not at another. This is true not only of opium, but of very many other drugs. Vincent, of Lyons, has recently reported experiments upon animals, in which drugs were administered by intravenous injection, and the most varied idiosyncrasies were observed. The most extraordinary differences were observed in different animals under the same conditions, and in the same animal at different times. The speaker referred to the enormous doses that are sometimes tolerated by individuals who are not accustomed to the use of opium, and instanced the case of an army associate whom he knew not to be accustomed to it, and yet took five grains of morphine with no effect more than to secure him a night's relief from severe pain.

That death should result from so small a dose he considered remarkable, but he thought that such a case should not influence our faith in the use of the remedy. In regard to the use of atropia, he thought that it might have been more freely administered, because it is generally so well borne. He remembered a case in which he had given an eighth of a grain to an individual in three doses, and where it was very difficult to satisfy the "intelligent" jury who sat on the case that the death was the result of hydrophobia, and not the result of atropia. So, while it was very easy to look back and say that a larger amount might have been given, it would have been much more difficult to determine the question at the bedside of the patient; and he had no doubt that if a grain, or even half a grain, had been administered, there would have been more than one ready to attribute the death to the atropia instead of to the morphia, and it would have been said more than once that the individual would have gotten well easily enough had not the atropia been given.

In regard to the use of electricity, he said that nearly every report that one reads of a patient being overcome by chloroform or any of the narcotics, states that the battery had been used to stimulate the pnemogastric. In his opinion, nothing worse could be done: since the pneumogastric was the inhibitory nerve of the heart, and its stimulation would only add to the existing trouble. He agreed with a previous speaker who thought that electricity was of service by its stimulation of the skin. It was all the more surprising that so small a dose of morphine should result fatally after an operation, for it is a well-known fact that individuals who have been the subjects of operations generally bear morphia better than those who have not been operated upon. It is customary to give not a quarter of a grain, but a third, a half, or even a full grain after an operation; such had been his practice, and he had never had any evil result from it. This individual was unfortunate in that she had an idiosyncrasy; and the reporter might, changing the words of Paré, say, "I dressed her, and God (not cured, but) killed her."

DR. S. NICKLES stated that nearly all authors who discuss the measures appropriate in morphia poisoning recommend the application of electricity to increase the frequency of respiration. They do not, however, direct that the current shall be passed through the pneumogastric nerve, which would retard the heart's action, but only through the phrenic. The question of importance to us is, Will the electric current properly applied increase the depth and frequency of the respirations? for this is the most important indication in all cases of morphia poisoning. That the faradic current passed through the phrenic nerves in persons whose respiration is failing from narcotic poisoning, will cause very active contraction of the diaphragm has been repeatedly observed. A case treated by the speaker a short time ago demonstrated the power of electricity. The patient was found in profound coma, with slow stertorous breathing, and cold, moist, cyanotic skin. After a prolonged spree, he had taken bromide of potassium, chloral, chloroform, and morphia. The faradic current was passed through the phrenic nerve, and produced deep inspirations. The respirations were thus maintained at fourteen in the minute for several hours.

In Dr. Reamy's case, no such effects were obtained. This, as well as the supervention of the coma, renders the case a very doubtful one. Cases of supposed opium poisoning had been reported, the patients having taken lethal doses of the narcotic, in which post-mortem examination revealed cerebral hemorrhage. Johnson had reported several cases. He did not believe that in a healthy adult between the ages of twenty and fifty years there could exist so strong an idiosyncrasy that a quarter of a grain would produce death. The smallest dose of opium known to have destroyed an adult was four grains. The best opium may contain as much as twenty per cent. of morphia, and three grains may be considered equivalent in therapeutic activity to one grain of morphia. Opium, however, contains besides morphia a large number of alkaloids, although in smaller quantity.

He said that no antagonism exists in the action of morphia and atropia on the pupil. When atropia is instilled into the eye, rapid dilatation of the pupil ensues; a similar application of morphia produces no effect. In the one case the remedy, atropia, acts upon the peripheral part of the oculo-motor nerve; in the other, no action whatever takes place. How morphia produces myosis is still unknown, except that it is due to a central influence. The fact alluded to by a previous speaker that atropine will dilate the pupil contracted by morphine proves nothing, since morphine applied locally will not contract the pupil dilated by atropine.

A previous speaker referred to the experiments of Witkovski, as proving that therapeutic doses of morphia do affect the heart's action. The experiments of Witkovski were performed on animals. The action of morphia on different species of animals differs widely; it differs still more between man and all species of animals. Hence, no conclusions can be drawn, as to

the action of morphia upon man, from the effects observed in animals. But Witkovski did not conclude that morphia markedly affects the circulation. On the contrary, in the summary of the results (*vide Archiv f. exp. Pharm. und Path.* Bd. vii. p. 268), he says: "The centres of the inhibitory vagus fibres of the vasomotor nerves, and the contraction of the pupil, are not directly influenced by morphia, either in the form of paralysis or excitation," and "the heart itself is not influenced."

Experiments of real value were performed on healthy men by Riegel and Priesendörfer. They administered from a sixth to a half grain of morphia to healthy adults. In no instance did they notice any variation in the force or frequency of the heart's action, and hence they conclude that "morphia, in doses of from one to three decigrammes (one-sixth to one-half grain), exerts no action upon the vascular system of man."

Toxic doses, on the contrary, do affect the circulation, the pulse becoming feeble, slow, and irregular. The slowing of the heart's action is attributed to the excitation of the inhibitory nerve of the heart. But the slowing persists when the inhibitory centre has become paralyzed, in consequence, it is supposed, of paralysis of the musculo-motor ganglia of the heart.

The action of morphia, introduced hypodermically, differs from the action by the stomach chiefly in quantity and rapidity, not in quality. It is quickly absorbed by the subcutaneous lymphatics, and hence acts in a few minutes. But from the stomach, absorption takes place slowly, and often incompletely. Morphia has been detected in the human stomach fifteen hours after the administration of small doses. It has been discovered in the small intestine of the cat from fifteen to eighteen hours after administration. Sometimes, after the therapeutic use of morphia, it is not completely absorbed, since small quantities have been detected in the feces.

Morphia is not rapidly eliminated, from ten to twenty hours elapsing before it, or the products of its oxidation, have entirely disappeared from the urine.

That morphia diminishes the secretions, is usually held. But there is no positive proof that it directly diminishes any secretions, except those of the mouth and trachea. After very minute doses, the salivary secretion may increase, but the mouth becomes dry after large doses. Rossbach found, in experiments on animals, that the secretion of the trachea is rapidly diminished. It is often asserted that the secretions of the stomach, intestines, and liver are diminished. This is inferred from the anorexia, indigestion, and constipation resulting from large doses, and often from small ones. Rutherford, in his experiments, could detect, after the use of morphia, no difference in the quantity of bile secreted. The constipation has been shown by Nothnagel to be produced by arrest of peristalsis, in consequence of excitation of the inhibitory fibres of the splanchnic nerves. The difficult micturition is ascribable to modification of the innervation of the urinary bladder, not to changes in the quantity of urine. The secretion of the skin usually becomes increased; and when this occurs to a marked degree, the urinary secretion becomes lessened indirectly. Toxic doses of morphia, which greatly reduce the blood-pressure, will rapidly diminish all the secretions, because these cannot take place when the blood-supply is insufficient.

DR. REAMY, in concluding the discussion, said that the most striking point in the case was the first startling announcement that the woman had suffered the symptoms stated from the exceedingly small dose of a quarter of a grain.

The woman was perfectly healthy, so far as the most careful examination could determine. She had willingly submitted herself to an operation that could not be considered absolutely necessary; notwithstanding, he regarded it as warranted for the relief which would follow. He had assured her that there was no danger in the operation itself. She was young and of high social connection, and the mother of one child.

When he saw the case, it was after the second administration of a ninety-sixth of a grain of atropia, including the amount first given with the morphia. A third dose of the same amount was then administered. It was with a full knowledge and appreciation of the fact that atropia was given for the relief of the respiratory centres; but the attendants were also aware that the books, as well as his experience, taught that the action of the heart was also influenced by it. Since the heart was already acting with abnormal rapidity, and the quantity of morphia had been so small, it was feared that any more atropia might further stimulate the cardiac ganglia and paralyze the inhibitory pneumogastric nerve, thus rendering the difficulty more pronounced. All these things were considered, as well as the question asked by one of the speakers, namely, was there nothing else that could produce this condition? After the third dose of a ninety-sixth of a grain had been given, the pupils responded to a slight degree. He was aware that the condition of the pupils was no guide to the effect being produced upon the respiratory or cardiac centres by the atropia, and that, as a rule, the remedy ought to be continued until it showed some effect on the respiration. But in this connection, he felt that it was necessary to take into consideration also the amount of morphia he was endeavoring to counteract. Did the respiratory centre need stimulation on account of the effect of morphia poisoning? Finally, it was decided to give another dose of $\frac{1}{120}$th of a grain. He had felt that they would not be justified in giving more, lest they might substitute belladonna for opium narcosis, and only further paralyze the centres they desired to relieve. The danger of this, he said, was strongly insisted upon by Bartholow (*Therapeutics*, fifth edition, page 519), where he says, that "Belladonna in too great quantity, or too long inaction, exhausts the irritability of the unstriped muscular fibre, and thus induces the very state which its administration is intended to relieve," etc. This view is also concurred in by other high authorities.

While the amount of atropia that had been administered was not enough to prove at all dangerous to life, there were other things to retain him from giving more. One of these was the possibility, not yet positively eliminated, of the case being one of apoplexy. Still he regarded this at the time as an improbable condition, from the absolute equality in the degree of contraction of the pupils. Then, too, he agreed with the speaker who had remarked that if he had given more, it would have been said that the patient died from bad

therapy, rather than from the effects of opium. He must insist that, sustained by the highest authorities, as well as his own judgment, *he was bound, in determining the quantity of atropia, to consider the quantity of morphia which had been given, as well as the character of the heart's action.*

In regard to the faradic current, attention was called to the fact that it was applied over the course of the phrenic more diligently than to the pneumogastric.

Speaking of the amount of morphia that may prove fatal, the speaker referred to Wood's *Therapeutics*, third edition, page 125, where it is stated that the smallest dose that has proved fatal in the adult was the sixth of a grain, administered hypodermically. In a foot-note on the same page, the statement is made that the literature now presents many similar cases. Although we do not know the nature of the condition we call an idiosyncrasy, he thought it strictly correct to attribute the accident he had reported to such a condition, rather than to state that, because the dose had been so small, it must have been due to some other trouble.

In conclusion, he narrated a case that had occurred in his practice a number of years ago. He was called one evening, just as he was starting to attend an obstetrical case, to see a patient to whom he had been accustomed to administer morphia subcutaneously, in the dose of a quarter of a grain, at intervals of two or three weeks, for the relief of a severe neuralgia. At that time, he was in the habit of keeping his morphia for hypodermic use in a solution which he always had prepared by the same pharmacist, and in the same quantity. When he arrived at the home of the patient, and was about to prepare the usual dose, he discovered that the greater part of his solution had escaped, so that there was not enough to give the usual amount. Being pressed for time, he clandestinely filled the bottle with water, diluting the remaining solution at least ten times. From this, he administered the usual quantity, intending to return in a short time and repeat the administration with a stronger solution. When he returned, about two hours later, he found the patient in a coma, with another physician in attendance, and both were required to remain all night in order to restore her. The woman died suddenly a few years after, and her death was attributed to apoplexy.

RHODE ISLAND MEDICAL SOCIETY.

Semi-Annual Meeting, December 18, 1884.

THE PRESIDENT, DR. OLIVER C. WIGGIN, IN THE CHAIR.

(Specially reported for THE MEDICAL NEWS.)

THE PRESIDENT addressed the Society in behalf of the

ESTABLISHMENT OF AN ANATOMICAL MUSEUM,

emphasizing the importance and value of such a collection, and expressing the opinion that there were young men in the Society abundantly qualified to take the initiative steps. He thought it best not to draw upon the funds of the Society for the object in question, but to meet the few incidental expenses from other sources.

Upon motion of Dr. Terry, it was voted that the Chair appoint a committee of five Fellows, to be known as the Museum Committee, with full powers to act.

The Chair constituted the Committee as follows: *Chairman*, Dr. W. J. McCaw; Drs. G. T. Swarts, T. B. Fuller, C. M. Godding, and B. R. Lymonds.

DR. EZRA DYER, of Newport, reported a case of

FISTULA OF THE ANTITRAGUS,

and said this affection was very rare. It is one that causes some annoyance. Properly described, it is not a fistula, but a minute sac situated about a centimetre above the antitragus. His patient was a young lady, fourteen years of age, who was annoyed by the offensive matter exuded from the little sac, which was a centimetre in depth. She had been treated by several New York physicians without benefit. Caustics had been employed, and the sac had been partly slit down, among other procedures. Dr. Dyer armed the point of a curved needle with hard wax, making it probe-pointed, and passed a heavy silk suture through the sac, as a seton. This was allowed to remain ten days, but did no good. Finally, a loop of platinum wire was passed into the sac and brought to a white heat by galvanism. The patient complained of a good deal of pain at the time, and the operator had not seen her since, but had been told by her father that the sac closed up entirely, and without further trouble.

DR. E. W. TENNEY reported a case of

RETAINED PLACENTA.

The woman was thirty-six years old, and had menstruated normally up to eleven months ago. Since that time she had flowed for two or three days, at intervals of two months or more. These hemorrhages, at first, were not very copious, and were painless, but had increased in severity of late. He first saw the case Dec. 10th, and found the patient flowing freely and suffering intensely. Suspecting abortion to be near at hand, she was questioned as to her condition, when she denied that she was pregnant at all, and, upon further inquiry and examination, he decided that probably she was not so. The mammæ were soft and flabby, and the uterus little if any enlarged. Digital examination revealed a fleshy mass occluding the os internum, which was then thought to be a pediculated fibroid which the uterus was trying to expel. Morphine was given hypodermically to relieve the pain. The next day the mass was found crowded lower down in the vagina, and was extracted without much difficulty. It proved to be a placenta about two and a half inches in diameter and studded with pea-sized cysts filled with clear fluid. Evidently hydatiform degeneration had occurred.

It was the opinion of the writer that pregnancy began eleven months previous, and that the placenta had been retained that length of time—a very rare occurrence, so far as he could learn.

THE PRESIDENT remarked that he had not supposed such cases were so rare, and mentioned two from his own practice. In the first case the placenta was retained in the uterus for eighteen months, and had become contracted into a round, fibroid mass, and nided, as it were, in a sac on one side of the fundus, making a ball the size of a walnut. Dr. Wiggin introduced his finger and released the round mass from its enveloping sac, leaving it free within the cavity of the womb, from which he did not attempt to remove it. A dose of ergot was given, which was followed, within twenty-four hours, by the expulsion of the placental mass. In the

second case, on delivering a child at full term, he was surprised to find in the uterine cavity an old placenta, which had been retained there since the occurrence of an abortion some time previous to this pregnancy.

DR. D. H. BATCHELDER remarked that he had a patient now under observation who has a retained placenta from an abortion that occurred three months ago, because she refused to have it removed by his method. It was his belief that the advice of some authors to leave the expulsion of the placenta to nature, in cases of abortion, was wrong, and that it should be accomplished without delay. His own method was to introduce a home-made instrument, viz., a piece of large-sized wire bent into the form of a ring. He would turn this, in the uterine cavity, with considerable force, so as completely to break up the placenta, which was sure to be expelled within twenty-four hours without serious hemorrhage or other bad results.

DR. F. B. FULLER then read a paper on

THE NATURE AND PREVENTION OF PUERPERAL FEVER.

The various theories of eminent authorities, as to the nature of the disease, were carefully reviewed. The writer claimed that the connection between zymotic causes and puerperal disease is too close to be overlooked, and, in the way of prevention, it is the physician's duty to see that the most perfect ventilation possible is maintained in the lying-in room. The invasion of the genital tract by germs before labor is to be guarded against by cleanliness and the use of antiseptics. After delivery the firm contraction of the womb is a most important condition in the prevention of puerperal fever. To insure this, pressure over the fundus is to be kept up for some time by the hand and then by a binder, together with the administration of ergot and opium. All lacerations of the perineum should be stitched. The bed should be kept clean and its linen frequently changed. The napkins should also be frequently renewed and disinfectants used.

DR. TERRY remarked that he believed puerperal fever to be of septic origin and nature, and not zymotic at all; even though it may occur before labor, and in waves, as it were. When we have no cases of puerperal fever, we get careless, and doors are left open, inviting septicæmia. He also alluded to the connection between offensive lochia and septicæmia, and said it was a common thing, when he was in the lying-in hospital, for the lochia to be offensive, but that he had seen only four instances of it in his private practice, three of which occurred in one week—just following the case of a patient who died of self-induced abortion and septicæmia. He thought he himself carried the disease germs from this case to the other three.

He also thought we have in milk fever, so called, a mild form of septicæmia. In the lying-in hospital the patient's temperature was very apt to be from 101° to 103° on the third day after confinement, but this is not the case in private practice.

DR. NEWHALL claimed that we possess no certain knowledge of germs as the cause of puerperal disease, and that the question is still unsettled.

DR. TERRY remarked that he supposed no one claimed, as yet, that the germ theory is anything more than a theory, but it is found that treatment based on that theory is the most successful.

DR. BATCHELDER said that he had attended about three thousand confinements, and had seen only four cases of puerperal fever among the entire number.

DR. FULLER said that he was glad some of the speakers had been fortunate enough to have so few cases of puerperal septicæmia in the long series of cases mentioned, but statistics showed that in New York City during one year, one death out of every one hundred and twenty-seven had been caused by that disease. If we could all live as the primitive man lived, we would need no antiseptics and hear of no puerperal fever. To acknowledge the identity of septicæmia and puerperal fever is not necessarily to accept the germ theory. The existence of septicæmia is undoubted, and hence we should take all possible precautions against it.

DR. CASWELL thought that septicæmia is liable to occur after confinement, when the cervix or perineum has been lacerated and neglected, or when the medical attendant has recently come from a case of erysipelas or septicæmia or a post-mortem, and has not observed the proper rules for cleansing and disinfecting himself. He did not think we were expected to follow *all* the directions set forth by Dr. Thomas, but there was surely a middle ground we could occupy with safety. In ordinary cases he would do away with much that Dr. Thomas has advised, but in times of epidemics or under unfavorable circumstances every precaution should be observed.

DR. ELY also believed a middle course to be the best. Absolute cleanliness is the important element. There was no doubt as to the great value of intrauterine injections in certain cases, but he inclined to the belief that the good accomplished was not so much due to the potency of the fluid injected as a *germ destroyer* as to its effect simply in rinsing and washing out the uterine cavity, and thus freeing it mechanically from decaying matter and germs. Probably the injection of *pure* water would accomplish as much. It certainly is the duty of every physician to free himself from dangerous contamination before approaching a case of parturition.

DR. CHARLES O'LEARY expressed his concurrence in the remarks of Dr. Caswell, and said he believed that too much meddling in midwifery was injurious.

Upon motion of DR. CASWELL it was voted that

THE ANNUAL MEETING

of the Society be held on the *second* Thursday of June instead of the *third* Thursday as heretofore.

DR. CASWELL reported a

CASE OF LITHOLAPAXY.

About two years ago he first operated on the patient, removing a small stone intact, and the fragments of a second one. The cure was complete until symptoms of stone reappeared a few months ago. On December 2d, he operated again with exactly the same result, viz., the removal of a small stone unbroken and the fragments of a slightly larger one which could not enter the tube intact. The recovery of the patient was rapid, he being about the house the following day, and at his place of business on the third day. Dr. Caswell alluded to this illustration of the immense advantage of the crushing over the cutting operation in case of a small calculus.

DR. G. T. SWARTS then read a long and interesting

paper, giving the statistical and other conclusions based on his personal investigation of three hundred out of the five hundred cases of

TYPHOID FEVER

reported to the Superintendent of Health in Providence, during the epidemic of 1882 and 1883. The special object of the investigations had been the causation of the disease.

MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

Stated Meeting, December 5, 1884.

(Specially reported for The Medical News.)

The President, T. G. Roddick, M.D., in the Chair.

The President exhibited a

TUMOR OF THE BLADDER

about the size of a hen's egg, which he had successfully removed from a patient under his care in the General Hospital. A microscopic slide of the tumor was also presented, which showed that it was a cystic papilloma.

The history of the case is as follows: Patient, aged fifty-three, ten years ago first noticed difficulty of micturition, three years ago passed blood with his urine; at that time he was making water every hour; this was preceded by pain, referred to the end of the penis and neck of the bladder. Since then he has been troubled with frequent and painful micturition, for relief of which he applied for admission to the Hospital. When admitted into the Hospital he was making water every hour, but from a bladder so distended that it reached nearly to the level of the umbilicus. He complained of great pain in the left iliac region, especially during the act of micturition. The prostate, on examination, proved to be only very slightly larger than normal. The bladder was sounded carefully, but nothing definite could be made out. Dr. Roddick, thinking the case was either one of encysted stone or tumor, determined to explore the bladder after the manner recommended by Sir Henry Thompson. This he did on November 12th. A staff was introduced and the perineum incised in the middle line and the urethra opened in the membranous portion; the finger was then introduced through the prostatic urethra, and almost immediately something was felt. On examining more carefully, Dr. Roddick discovered a pedunculated tumor attached to the side of the neck of the bladder; this he freed with his fingernail and extracted with forceps. For a few days the man had some elevation of temperature, but afterwards he did well, and was, at the present time, passing his urine by the urethra.

Dr. Roddick remarked that he had several times explored the bladder according to Sir Henry Thompson's method, but that this was the first time he had discovered a tumor.

CHICAGO GYNECOLOGICAL SOCIETY.

Stated Meeting, December 19, 1884.

The President, H. P. Merriman, M.D., in the Chair.

Dr. Etheridge exhibited

A PLACENTA WITH CALCAREOUS DEPOSITS.

The placenta was removed from the body of a woman, pregnant for the first time, who had probably carried the fœtus two hundred and ninety-two days. The calcareous deposit was probably the result of fatty metamorphosis of the upper layers of the *decidua serotina*.

Dr. Sawyer said that the placenta was interesting but not uncommon. It has been erroneously believed that such *placentæ* are of syphilitic origin. He thought the connection with prolonged gestation was established.

Dr. Dudley referred to the calcareous deposit in the walls of the arteries supplying an ovarian cyst which he had removed some years previously.

Dr. Jackson related the history of a case in which he had removed a mass of calcium carbonate, situated in the recto-vaginal septum, an inch and a half from the vulvo-vaginal orifice. There was no fatty metamorphosis in this case.

Dr. Earle thought there was an unreasonable tendency to ascribe such cases to the effects of syphilis. Hydatidiform degeneration of the chorionic villi and hydrops amnii received a similar erroneous etiology.

Dr. Etheridge said that the deposits were composed of the phosphate and carbonate of calcium. These salts had an affinity for albumens and fatty acids resident in the cotyledons. Similar calcareous deposits were found in fibroid, thrombi, encysted trichinæ, and in the lithopædia of extrauterine pregnancy.

Dr. W. H. Byford thought the connection between prolonged gestation and calcareous deposits in the placenta was established. He thought that Dr. Etheridge would find, on microscopical examination, that the changes had occurred exclusively within the vessel walls.

NEWS ITEMS.

NEW YORK.

(*From our Special Correspondent.*)

Dr. William Darling, the eccentric Professor of Anatomy of the University Medical College, died last week of pneumonia. Prof. Darling was a man of profound learning of a limited kind, and his studious habits and retentive memory made him, without doubt, one of the best living anatomists. His room at the college, where he lived, was a perfect Golgotha, and he might have been said to live cheek by jowl with his subjects. He was exceedingly simple and penurious in his habits, and for many years walked several miles to the lower part of the city for his economical, farinaceous meals, which, for great occasions, were supplemented with a piece of meat.

The stories regarding him which have floated about the College are very entertaining, and his avidity for morbid specimens, and anxiety in regard to approaching deaths, was comical. His pathological tastes rather led him to acquire the strange and picturesque than those specimens which were of absolute scientific value. In spite of certain peculiarities, he was an agreeable, quaint old Scotchman.

The Board of Health are again in trouble, and a committee of "ladies" have prodded them into indicting one Kane, who stores vast quantities of manure on the east side of the city. This board, as well as others, has shown singular incompetence in taking care of the great nuisances of this character, and a remarkable vacillation which is not creditable.

COCAINE IN DENTAL SURGERY.—Cocaine has been used here in dental surgery, and Dr. W. Halsted has, by means of injection of a four per cent. solution (and even one of greater strength) with a curved point caused anæsthesia of the inferior dental nerves. Several operations have been performed without discomfort to the patient, and one dentist has filled teeth quite painlessly.

SCARLET FEVER.—The city is suffering from a rather decided outbreak of a very malignant form of scarlet fever.

OUR WAITING ROOMS.—Your correspondent has been impressed with the cheerlessness of many of the waiting rooms of medical men. While such places are exposed to the incursions of petty sneak-thieves, still it is possible to make them much more attractive than they now are by means of pictures and books. Illustrated and other papers several weeks old are scarcely profitable reading, and patent medicine circulars, illustrated catalogues, and such literary rubbish are scarcely calculated to engage the impatient patient. In one anteroom we found last week a large bible, bearing the imprint of the American Tract Society, was the only pabulum. When one stops to think of the diverse character of his patients, he will be a little more liberal in his provision of reading material.

CINCINNATI.

(*From our Special Correspondent.*)

MORTALITY STATISTICS.—It has always been the pride of our unprofessional Board of Health to report a lower rate of mortality at the close of each week than was reported for the corresponding week of several preceding years. The exceptionally healthy condition of the city during the last year has enabled them to accomplish this end without difficulty. But with the coming of winter the rate of mortality has very decidedly increased, so that the reports are less pleasing and, as the Board seems to think, less creditable to it than they have been for several years. In order at least partially to overcome this state of affairs, and to guard against its occurrence in the future, the Health Officer has addressed a communication to the Board, in which he recommends that the average hereafter be reckoned on a higher basis of population. Since the 1st of January, 1877, the rate of mortality has been computed upon an assumed population of 280,000. On the assumption of the Health Officer that *six* is the ratio of vote to population, the recent election would indicate that the population of Cincinnati is 353,100, or 73,100 more than the present estimate. Although the ratio six appears rather high, we are told that it is lower than the estimate made in Chicago or Cleveland. The officer very modestly recommends that on and after the 1st of January, 1885, the population, so far as the Board of Health is concerned, be considered not less than 325,000.

The report for the week ending Saturday, December 6th, indicates a total of 123 deaths, or a rate of 22.91 per annum per thousand. Deaths during the week ending December 8, 1883, 100; during the week ending December 9, 1882, 109.

YELLOW FEVER IN HAVANA.—For the week ending December 11th, Dr. D. M. Burgess, Sanitary Inspector, Marine-Hospital Service, reports only three deaths from yellow fever in Havana.

PROPHYLACTIC MEASURES AGAINST CHOLERA IN PARIS.—THE Préfecture de Police has issued the following rules, to be observed in case of an outbreak of cholera in Paris. They relate: 1, to the precautions to be taken against cholera, preventive measures, care and isolation of the patients, and disinfection; 2, to persons who have come in contact with choleraics; 3, to the certificate of death and proper burial of the dead body.

Notification. When a case of apparent cholera has come to the knowledge of a magistrate, either by communication of the physician in attendance, of the police, or by public rumor, the magistrate shall cause a special physician to see the case immediately and make a report, which shall be sent to the Chief of Police as soon as possible.

Special Physicians. In each quarter of the city, and in each ward, one or more physicians should be appointed to visit the sick persons at the first order of the administration. These physicians shall visit every case which is suspected to be cholera. They shall go to the house in which the patient is, make the diagnosis, and make out a report which must be sent to the police magistrate.

Transportation of Patients. Special vehicles have been made for the transportation of patients with choleriform affections, who cannot be cared for at home. Independently of these vehicles, others have been set apart to be used in cases of necessity. When a patient has to be carried to the hospital, the request must be made by the family to the police magistrate or to the police post of the quarter, from which place the name and address of the patient shall be telegraphed to the Chief of Police. The Chief of Police shall immediately send the ambulance, to which the horses shall be always hitched. After the transportation, the ambulance shall be washed and thoroughly disinfected. These ambulances shall be at the disposal of the public at all times, free of charge. The citizens should be advised of the existence of these special ambulances through the newspapers.

Disinfection of Contaminated Places. Disinfectants shall be furnished to the public free of charge, at all police stations; and to insure the proper execution of the prescribed measures, a special service of disinfectors has been created. These agents will immediately disinfect every place contaminated by a choleraic, either after the decease or after removal of the patient to the hospital. The disinfection is done by two persons, who shall always be ready to set out at the first call. The orders to them shall be sent by telephone. The *personnel* and the disinfecting materials are to be carried in a vehicle, which must always be ready. The number of disinfecting agents may be increased when necessary. The men shall be of age, and shall be of good moral character. The physician in charge will see that the disinfection is properly carried out.

The Burial. The police magistrates shall, as soon as possible, inform the mayor of all persons dead of cholera, so that he may at once order the burial. Special measures are to be taken that the coffins are absolutely impermeable.

Medical Service. The Mayor has been asked to organize a special Medical Service, so that families may be sure of finding physicians at certain places at any hour of the day or night.

The Chief of Police will see that ovens for the disinfection of clothing, bedding, etc., are constructed at certain places; and they shall be so made that dry or moist heat may be used, as necessary. The following are the instructions for the squads of disinfectors;

I. When a disinfecting squad is called to a room which has recently been occupied by a sick person, it shall go immediately, carrying the following articles: 1. An iron plate, two feet in diameter. 2. A bag of sand. 3. Flowers of sulpher, in packages of lb. 1¼ each. 4. Alcohol in six ounce flasks. 5. A clay furnace, or some bricks. 6. Matches. 7. Small kindling wood. 8. A metre (yard) measure. 9. A step-ladder, six feet high. 10. A pot of glue, and a brush. 11. Some paper (as newspapers). 12. Bottles of chloride of zinc.

II. Having arrived at the house, the room to be disinfected is first measured; the height being multiplied by the length, and the product by the breadth. This measure shows what quantity of sulphur is necessary for disinfecting it, ʒv being used for each cubic yard. A room of twenty-five cubic yards requires lb. 1¼ of sulphur, or one package.

Everything which has come in contact with the cholera patient should be spread on the floor, or on tables. The chimney, windows, doors, and every chink leading out of the room should be closely stopped by pasting paper over them. The furnace (or the bricks) is placed on the iron plate in the middle of the room, every precaution being taken against accident from fire, papers and inflammable material being removed from it. If a furnace is not to be had, a temporary one may be made with some bricks and sand. Into this the necessary quantity of sulphur is poured; some alcohol poured on the sulpher, so as to moisten its surface; a few bits of the kindling wood placed on, and the fire lighted. The process is similar with a furnace.

The remaining open door is then closed, and the chinks stopped from the outside; the key is given to the janitor, with instructions that no one shall enter the room. Before leaving the house, all water-closets and sinks should be disinfected with a solution of lb. 1¼ of chloride of zinc in ten quarts of water.

III. The house is to be visited on the next day, the water-closets and sinks again disinfected with the solution of chloride of zinc, the doors and windows opened, and a report made to the Chief of Police.

To complete the system of notification, the telephone companies are required to place their instruments and lines at the service of the public. Every person having a physician's certificate, showing that he wishes to use the instrument on cholera business, will have this privilege accorded him.

On November 10th, the Municipal Council of Paris voted the sum of 150,000 francs to organize the cholera service.—*Gazette Méd. de Paris*, Nov. 15, 1884.

OBITUARY RECORD.—WILLIAM DARLING, M.D., F.R.C.S., Professor of Anatomy in the Medical Department of the University of the City of New York, died in New York on Wednesday, December 24th. Dr. Darling was born in Berwickshire, Scotland, in 1815. He came to America in 1830, and in 1841 he began the study of medicine in the University in which he subsequently became a distinguished professor. In 1840 he was appointed Assistant Physician to Bellevue Hospital, and while acting as such had charge of the male and female hospitals, and of the Smallpox Hospital on Blackwell's Island. In 1845 he was appointed Demonstrator of Anatomy by Prof. Granville Sharp Pattison, which position he held until the death of Dr. Pattison, when he became Acting Professor. In 1856 he went to London, and was admitted a member of the Royal College of Surgeons. He remained abroad for ten years, most of the time in London, attending the lectures and clinics at the various hospitals. In 1866 he was appointed Professor of Anatomy in the Medical Department of the University of the City of New York, and before leaving London he obtained his Fellowship in the Royal College of Surgeons. In 1873 he was appointed Professor of Anatomy in the University of Vermont, and in 1877 he was elected Foreign Correspondent of the Société d'Anthropologie of Paris.

Dr. Darling was not a dry teacher of anatomical facts, but, having a thorough knowledge of ancient and modern classic writings, he used them in the lecture-room with great interest and benefit to the student. He was an enthusiastic collector of anatomical specimens, and had probably the best osteological museum in the country, if not in the world.

—— AUGUSTUS VAN CORTLAND, M.D., one of the oldest physicians in Westchester County, N. Y., died at Mount Vernon, on Tuesday, December, 23d, at the age of fifty-eight years. He was a surgeon in the Union Army during the late Civil War.

—— A despatch from Berlin says that DR. GRIMM, the Body Physician of Emperor William, is dead. He was the originator of the sanitary system adopted by the German military authorities.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM DECEMBER 23 TO DECEMBER 29, 1884.

MCPARLIN, THOMAS A., *Lieutenant-Colonel and Assistant Medical Purveyor.*—Granted leave of absence for three months, on surgeon's certificate of disability.—*S. O. 301, A. G. O.*, December 24, 1884.

JOHNSON, HENRY, *Captain and Medical Storekeeper.*—Directed, in addition to his present duties, to perform the duties of Assistant Medical Purveyor in New York City.—*S. O. 301, A. G. O.*, December 24, 1884.

WALES, P. G., *First Lieutenant and Assistant Surgeon.*—Relieved from duty in Department of Colorado, and ordered to Department of Arizona.—*S. O. 128, Division of the Pacific*, December 27, 1884.

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the NEWS *should be addressed to No. 1004 Walnut Street, Philadelphia.*

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ORIGINAL LECTURES.

PSEUDO-HYPERTROPHIC MUSCULAR PARALYSIS.

A Clinical Lecture delivered in Rush Medical College, Chicago.

BY NORMAN BRIDGE, M.D.,

PROFESSOR OF HYGIENE, AND ADJUNCT PROFESSOR OF THE PRINCIPLES AND PRACTICE OF MEDICINE.

GENTLEMEN: The lad who is before you has a curious disease. As he walks in, you observe that he has a waddling gait, and seems to be lame on both sides; he lifts his feet as if they were weighted, and carries them far apart, and as he steps he throws the foot forward slowly and with difficulty, and his step is short. As he sits here before you, he would hardly be supposed to be sick. He looks a little pale from having been much indoors; his face is thin, and his large head and broad forehead give him an appearance of mental strength that does not exist. His peculiar movements as he walks in are the result of weakness; all his muscles are weak, and his movements indicate this fact. He sits easily in his chair, but when he attempts to get up he is unable to do so in the usual manner. He has not strength to rise directly from his seat as one usually does, but he awkwardly turns his body round before rising, faces backward, and by the aid of his hands, resting them first on the seat and then on the back of the chair, he helps himself to rise to a standing posture. In executing the manœuvre he uses all fours, and if he should attempt to rise from the recumbent posture he would be obliged to turn first to the prone position and, after rising to a position on his hands and knees, to help himself up to a standing posture by means of his hands against his knees and thighs. As he reaches the perpendicular, you discover that he first staggers and shakes slightly till he gets the grasp of his equilibrium, when he slowly walks off with the peculiar gait. In going up stairs he is obliged to use all fours, creeping from step to step.

As he stands, you see that his shoulders are thrown far back, and the lumbar region of the spine is deeply arched; the spinal column is in a state of lordosis. This curvature is seen to be even more marked when the clothing is removed. The lordosis is present only when standing—as the patient sits it disappears entirely. On stripping the patient another feature is noticeable, namely, an attenuation of the muscles over portions of the body. Not only is there little adipose tissue, but the muscles seem to be even thinner and less developed than normal. Possibly over the pectoral region and over the area of the latissimus dorsi muscles the flatness is greater than over the general surface, but the difference is not very marked. The calves of the legs are an exception to this general appearance of muscular poverty; they are actually enlarged beyond their normal size. We are told that they were formerly much larger than they are now; so large, indeed, that they were the subject of remark by all who saw them, and that medical advice was sought on account of this unusual appearance.

The boy is ten years old, and, his mother tells us, has never had any acute sickness, except an occasional slight sore throat. He was tardy in learning to creep and to walk, and was always weak in his legs. He early—probably by or before his fifth year—showed the lordosis of the spine, but since his sixth year this symptom has steadily grown worse, and the weakness has also steadily increased. For half his lifetime he has been obliged to rise from his chair and to go up stairs in the way I have described. The calves bulged markedly till within two years—latterly they have become less prominent. Slight exercise causes fatigue, and on becoming chilled he often complains of aching of his thighs and back. He has dyspepsia, and often passes undigested food by the bowels, and his extremities are often discovered to be cold. Otherwise he seems to be in fair general health. He acts and talks in a shy manner, and like a child somewhat younger. He is very quiet, and does not attempt to join his playfellows in any active sport.

This clinical picture is that, almost unmistakably, of one disease. So far as is now known, no other disorder much resembles it. It is pseudo-hypertrophic muscular paralysis, and is so named—or receives its qualifying designation—from the apparent hypertrophy of the muscles, as we see in the calves of this patient.

In this disease the muscles actually waste, while there occurs an increase in the connective tissue and fat about and among them. Some of the muscular fibres undergo degeneration and apparently become connective tissue. The tissues surrounding the muscular fibres undergo hypertrophy, the muscular tissue wastes (from pressure, probably), and the paralysis is the paralysis of weakness. Nearly all the muscles waste, the pectoral and the latissimus dorsi perhaps most, but the hypertrophy is not uniform over the body. The bulging occurs most in the calves, as in this case, but may occur at the seat of the masses of muscle in various parts of the body, giving a false appearance of great muscular development. Some cases, unlike this one, have slight talipes, the heels being raised, from contractures in the muscles connected with the tendo Achillis. The disease invades the muscles of the heart, and causes death from weakness or paralysis of this organ. The invasion of the muscles is general over the body, and so, while it is a muscular atrophy, it differs in this particular from the so-called progressive muscular atrophy. In the latter disease the several muscles are attacked in succession, those of the upper extremity first, and the muscles that are spared remain in their integrity for years after the disease begins. Moreover, in the progressive muscular atrophy there is no pseudo-hypertrophy, and the disease usually occurs in adults.

The pseudo-hypertrophic muscular paralysis begin

in childhood, attacks the muscles of the body generally, slowly and progressively increasing, usually without a halt, till death ensues. This event usually occurs by or before the period of puberty is reached. If the disease ceases its progress for a time, it does not disappear nor much improve, but after a period of quiescence it marches on to a fatal termination. It occurs most often in boys. In a portion of the cases there is a lesion of the spinal cord, probably consisting in an inflammatory change in the gray matter. The anterior cornua and the lateral portions of the gray matter have been found, post mortem, in a condition of disorganization. What relation the changes in the muscles bear to those in the cord nobody knows; which of these lesions precedes the other in point of time is not known, and all calculation as to whether the disease begins in the cord and leads to the changes in the muscles, or *vice versâ*, is unsettled by the fact that in some of the cases careful post-mortem examinations have failed to discover any lesion of the cord of any kind or degree. Possibly more searching methods may in the future demonstrate that lesions of the cord are invariable. The clinical fact of significance to us is that in this affection the lesion of the muscles always exists; of that we are certain. That there is always lesion of the cord, gross or minute, is perhaps true.

The mind is usually unaffected except that it is weak, in some cases very weak. A few of the children late in the disease pass into a condition of idiocy. This is an event that should not surprise us when we consider the spinal lesions which sometimes exist and when we reflect that such changes may easily extend to the brain.

There has been some speculation as to the mechanism of the lordosis. It has been attributed to weakness of the extensor muscles of the spine, but on this theory the phenomenon ought not to disappear in the sitting posture. A better explanation is this: that as the patient stands the pelvis is unnaturally flexed upon the thighs owing to weakness of the extensor muscles that counteract this tendency; it is tipped or inclined forwards and the deep curvature of the spine is simply in compensation for this and to enable the patient to maintain the erect posture and his equilibrium.

There ought to be little danger of confusing this disease with any other. A few symptoms are always present, and, appearing together, they are diagnostic. Yet the disease has been mistaken for some affection of the spinal bones, for disease of the hip-joints and partial paralysis of the lower extremities. In a child with lordosis of the spine, a waddling, unsteady gait with the feet far apart, and the peculiar manœuvre on rising from the sitting and recumbent postures, if there is bulging of the calves with or without the same feature in other parts of the body, you may say surely that it is a case of this disease. These few elements are always present in greater or less degree: the youth of the patient; the lordosis; the characteristic gait; the peculiar manner of rising to the standing position; bulging over of certain muscles and the general weakness. Not only are all these present in this disease, but they are not present together in any other affection whatsoever.

The prognosis is grave indeed, and must so remain till more is known of the etiology and proper treatment of the disease. So far the patients all die before they reach adult life. Death may occur from exhaustion—which means, chiefly, heart exhaustion—and it may result from some intercurrent disease.

This peculiar affection is to a certain, probably we ought to say to a slight, extent hereditary. It would be more properly called a diathetic disorder that may be peculiar to a family. Certain families have shown a predisposition to it and have suffered its occurrence in several successive generations.

The treatment is theoretical and experimental. No treatment has had any particular influence over the disease. Various tonics, phosphorus and arsenic, and electricity, have been tried, with slight or no effect on the progress of the malady. As the weakness rapidly increases when the patient ceases to exercise, it is desirable to keep up some vigor of the muscles as long as possible by exercise and manipulation. In the present case some elixir of calisaya with nux vomica has been given during the past week for the dyspepsia, with the effect of partially removing it. But we cannot look for any improvement in the condition of the muscles and connective tissue from this treatment. The improved digestion may enable the patient to maintain his strength a little longer and postpone a little the day of dissolution, but I have no faith that anything more will be accomplished by it. To facilitate the general nutrition daily inunctions of oil over the entire body, with rubbing, have been ordered.[1]

ORIGINAL ARTICLES.

THE GERMICIDE POWER OF POTASSIUM PERMANGANATE.

By GEORGE M. STERNBERG, M.D.,
Major and Surgeon, U. S. Army.

In the very instructive paper by Prof. Bartholow on "Permanganate of Potassium: its Action and Uses," published in The Medical News of November 22, 1884, the following reference is made to my experiments relating to the germicide action of this agent:

"Most of the experiments made have been with microbes contained in culture-fluids; for example, the very able and elaborate research made by Dr. Sternberg.[2] Under these circumstances, the results are better than can be achieved from the use of the same antiseptics in disease, *cæteris paribus*."

This statement is undoubtedly correct, and is especially true as regards an agent like potassium permanganate, which is very quickly decomposed in the presence of organic matter. It is for this reason that in the experimental research referred to by

[1] This case was reëxamined four months after its presentation at the clinic. It was found that the boy had added perceptibly to his stature; that he had been in better vigor than for several years; that no dyspepsia had occurred and that he was able to move about quite as well, possibly slightly better, than at his former visit. There had developed slight talipes varus and the bulging of the calves had decreased. The treatment had been continuously kept up, both as to the medicine and the inunctions and manipulations. The material used for the inunctions was, most of the time, olive oil, and it had been applied each day once.

[2] Experiments to Determine the Germicide Value of Therapeutic Agents. Amer. Journ. Med. Sciences, April, 1883.

Prof. Bartholow, which had special reference to therapeutic possibilities, the writer dropped the permanganate from the list of substances to be studied from this point of view, after having determined that it had very decided germicide power. It destroyed the vitality of the micrococcus of pus in the proportion of 1 to 833.

This germicide power cannot, however, be made available for the destruction of germs in the blood or tissues for the reason that the permanganate is itself quickly decomposed by contact with organic matter. This point will be referred to later, and some recent experiments will be reported which show that, under the conditions mentioned in my paper above referred to, this agent does destroy germs in the proportion given. Prof. Bartholow continues:

"Sternberg assigns to bichloride of mercury (mercuric chloride) the first place as an antiseptic; yet he puts permanganate of potassium second."

There is a mistake here which seems to result from the use, by Prof. Bartholow, of the terms germicide and antiseptic as synonymous. Mercuric chloride does appear at the head of the list both of germicides (Table No. III.) and of antiseptics (Table No. IV.); but potassium permanganate only appears in Tables Nos. I. and II., which relate to the *germicide* power of the agents named, as proved by their power to destroy the vitality of a single test organism—a micrococcus.

For the reason already stated, the permanganate was dropped, after this preliminary trial, from the list of *therapeutic* agents which the writer proposed to test with reference to their *germicide* power. As I consider the distinction between germicides and antiseptics to be a very important one, I take the liberty of introducing here the definition which I have given in the chapter on "Germicides and Antiseptics" in my work on *Bacteria*.

"By a *germicide* agent we mean one which has the power to destroy the vitality of the various species of bacteria known to us, including those disease-germs which have been demonstrated, such as the anthrax bacillus, the bacterium of symptomatic anthrax, the micrococcus of fowl cholera, that of septicæmia in the rabbit, etc. *Germicides* are also *antiseptics*, as the bacteria of putrefaction are killed by them as well as those mentioned. They may also arrest putrefactive decomposition in quantities less than are required to destroy completely putrefactive organisms. But an antiseptic is not necessarily a germicide, for experiment proves that certain substances arrest putrefaction which have not the power to kill the bacteria to which this is due. This they do by arresting the vital activity—multiplication—of the germs of putrefaction, or by so changing the nutritive pabulum required for the development of these germs that they are unable to appropriate it to their use."[1]

As examples of antiseptics which are not germicides—except in the strongest solutions and after very long exposure—we may mention chloroform and alcohol, which inhibit, so to speak, the development of germs; and the metallic salts, such as sulphate of iron, sulphate of zinc, etc., which prevent the multiplication of germs by precipitating the albuminous material in fluid media which would otherwise furnish abundant pabulum for the development of putrefactive bacteria.

Having thus made clear the distinction which the progress of our knowledge in this direction has made it necessary to establish, with reference to the agents which were formerly all classed together as "antiseptics"—a distinction which alone justifies the use of the term *germicide*—I would remark that permanganate of potassium occupies the second place in my Table No. II., not because it ranks next to mercuric chloride among all known germicide agents, but because it has this relative position in the limited list which I selected, for special reasons, for the experimental research, the results of which are reported in the paper referred to.

I may be permitted to remark, *en passant*, that experiments of this nature take a great amount of time, and that the only reason why a larger list of chemical agents was not included in the above-mentioned research was that the writer had no assistance and was obliged to restrict his experimental work within the limits imposed by his own available time and pecuniary resources. Fortunately, circumstances are at present more favorable for the prosecution of work of this character, and I am now engaged in an extended research upon the "comparative value of disinfectants," which I have undertaken in conformity with the wishes of the American Public Health Association, and with the substantial assistance of several of the most active State Boards of Health. This pecuniary aid has enabled the committee, of which I am Chairman, to secure the services of two very competent assistants, who are now actively engaged in the work under my direction and with all of the personal assistance which other duties enable me to render. It has been decided by the committee that the results of our investigations shall be published from time to time in some leading medical or sanitary periodical, in advance of our complete report to the Public Health Association, at its next annual meeting, in order that they may be utilized by health officials and by the public in case of an epidemic of cholera next summer.

I proceed to quote from Prof. Bartholow's article, which, with due respect, I have taken as a text in the present communication, with a view to showing how many elements enter into the equation when the statement is made that a given agent is a germicide in a given proportion. Dr. Bartholow says:

"Whilst bichloride is effective in the proportion of 1 part to 20,000 of fluid, the permanganate of potassium acts to the same degree in the proportion of 1 part to 833 of solution."

Now, it must be remembered that these results relate to a single test-organism, and that the time of exposure adopted was two hours. They cannot, therefore, be compared directly with other experiments made by a different method, upon different organisms, and with a different time of exposure. All of the results reported by different authors, even by those who have been the most careful and exact in the application of the tests adopted, must be looked upon as approxi-

[1] Op. cit., p. 210.

mate, and not as exactly representing the germicide power of the agent named. Thus in my experiments with permanganate of potash, I commenced with a four per cent. solution, and, finding this effectual, sought to ascertain the limit of germicide power by diluting my standard solution after each experiment with an equal quantity of distilled water. This gave me the following series of experiments, in which no development of the test-organism occurred in a sterile culture-solution inoculated with the germs—micrococci—after two hours' exposure to the germicide agent, viz.: 4 per cent., 2 per cent., 1 per cent., 0.5 per cent., 0.25 per cent., 0.12 per cent. (last experiment in duplicate). Upon again diluting the standard solution one-half (making 0.06 per cent.), it failed to destroy the vitality of the micrococci, which multiplied freely in a sterile culture-solution in the presence of this amount. Here, then, we have the line between success and failure drawn between the limits 0.12 per cent. = 1 : 833, and 0.06 per cent. = 1 : 1666. To establish the exact limits for the germ in question, it would be necessary to try numerous experiments between these limits, and not only to exercise the greatest care in weighing or measuring the standard solution, but to operate each time upon the same number of germs contained in a uniform quantity of culture-fluid of uniform composition. These conditions might possibly be fulfilled, but from a practical point of view it is hardly necessary to insist upon their being fulfilled, inasmuch as the limits established are sufficiently accurate to serve as a guide for the use of this agent in disinfection. But in applying the experimental data here given, it must be remembered that the permanganate itself is destroyed by contact with organic matter, and that the destruction of micrococci in a drop of culture-fluid is a very different thing from the destruction of the same microörganisms in a large amount of organic material, as, for example, in the blood of an animal, or in liquid feces, by which the permanganate in dilute solution would be almost instantly decomposed.

In the writer's experiments, made in Baltimore in 1881,[1] it was found that 1 part in 50 was required to destroy the septic micrococcus in the blood of a rabbit just dead from induced septicæmia, the test of disinfection being inoculation of healthy rabbits with the disinfected material. According to Arloing, Connevin, and Thomas, a five per cent. solution destroys the fresh virus of symptomatic anthrax, but has no effect upon the dried virus. These statements are not at all in conflict with the results reported in my experiments heretofore referred to, and these results are substantiated by the following recent experiments made by the same method:

Nov. 26, 1884, a pure culture of the micrococcus of pus was subjected to the action of potassium permanganate for two hours in the proportion of 1 part to 500, and in the proportion of 1 part to 1000. Four culture-tubes containing a sterilized solution of beef-peptone were inoculated with the micrococci thus exposed (it is my practice to make every experiment in duplicate), and were placed in a culture-oven maintained at 38° C. (100.4° F.) for forty-eight hours. No development occurred in either of the tubes.

On the 29th of November, a similar experiment was made with a culture-solution containing both micrococci and bacilli. In this experiment there was no development of the micrococci, but the bacilli developed abundantly after exposure to the 1 to 1000 solution. No development of bacilli (*B. subtilis*) occurred, however, after exposure to 1 part in 250. In these experiments the permanganate, although in dilute solution, was not neutralized by the small amount of organic material contained in the drop of culture-fluid exposed to the action of the germicide agent. In the following experiments the conditions were varied, and a larger proportion of the permanganate failed to exert any germicide power.

Nov. 24th, equal parts of a 0.4 per cent solution (1 : 250) of potassium permanganate and of "broken-down" beef-tea were mixed in a germ-proof receptacle, and allowed to stand for two hours. Two culture-tubes were then inoculated with a minute drop of the mixture, and were placed in the oven. At the end of twenty-four hours, an abundant development of putrefactive bacteria had taken place. In this experiment, then, we have a failure in the proportion of 1 : 500, but the experiment does not in the least invalidate those previously reported. The truth is, that in making the above mixture the permanganate is almost instantly decomposed by the excess of organic matter, while in the experiments in which a single drop of culture-fluid containing micrococci was introduced into a more dilute solution, there was still an excess of the permanganate, as shown by the color of the solution at the end of two hours. Having determined the germicide power of the permanganate for micrococci, at least for one species of *Micrococcus*, I desired to know whether the oxidizing power of this reagent, when present in excess, would destroy the spores of anthrax, which are recognized as furnishing one of the most difficult tests of germicide power. The following experiments have been recently made:

Nov. 24th, a drop of culture-fluid, containing an abundance of anthrax spores, a pure culture, was added to a considerable quantity of a 4 per cent. (1 : 250) solution of potassium permanganate. After two hours, two culture-tubes were inoculated with a minute quantity of this material. These tubes were placed in the culture-oven, and the following morning contained an abundance of anthrax bacilli.

Nov. 27th, the above experiment was repeated, except that the time of exposure was extended to four hours. Again there was an abundant development of anthrax bacilli in the culture-tubes, showing that the spores had resisted; but in one tube the development was delayed, and it was only on the morning of the second day that flocculi of *bacillus anthracis* commenced to appear.

Dec. 2d, the experiment was repeated, with the exception that the time of exposure was extended to four days. The bacillus now failed entirely to develop in the culture-tubes, showing that the spores had been killed by this long exposure.

[1] Bulletin National Board of Health, July 23, 1881; also, Studies from Biological Laboratory of Johns Hopkins University. Vol. ii., No. 2.

It is probable that, in experiments in which the permanganate is present in excess, the amount present is of less importance than the time of exposure, and that a much stronger solution would fail to destroy anthrax spores in a short time. The wide difference in the potency of this agent and of mercuric chloride is shown by the fact that 1 : 250 failed to destroy anthrax spores in four hours; while, according to Koch, 1 : 10,000[1] of corrosive sublimate destroys these spores in ten minutes.

I expect before long to make a special report upon mercuric chloride as a germicide, and in this paper will endeavor to give a summary of the experimental data at present on record, and a detailed account of my own recent experiments with this agent.

Continuing to quote from Bartholow, we find the following:

"We must acknowledge a certain sense of scepticism in examining these experiments of Dr. Sternberg, as able and well-considered as they unquestionably are. We find it difficult to understand why liquor zinci chloridi has no germicide action, whilst a 2 per cent. solution of the same is effective in the proportion of 1 part to 50."

Dr. Bartholow's scepticism is well founded from his point of view, but it results from a misapprehension. I do not say that liquor zinci chloridi has no germicide action, but I record its failure to destroy the micrococcus used as a test-organism in the following experiments: Commencing at 1 per cent.—the time of exposure being, as in all of these experiments, two hours—and meeting with a failure, the following experiments were made, 2 per cent., 4 per cent., 8 per cent. Meeting with a failure in every case, I proceeded to test the pure salt—zinc chloride. This failed in the proportion of 0.5 per cent. and of 1 per cent., but was successful in the proportion of 2 per cent. (Experiment in duplicate, see Table No. I.) In my Table No. II., this result is stated as follows:

"Zinc chloride (2 per cent.) 1 part in 50."

The misapprehension has arisen from the fact that Prof. Bartholow has taken this to mean that 1 part in 50 of a 2 per cent. solution is efficient, whereas it means that 1 part in 50 of the pure salt is efficient, and the 2 per cent. in parenthesis is simply introduced from the previous table as the equivalent of 1 part in 50.

According to *The National Dispensatory*, the liquor zinci chloridi should contain about 50 per cent. of the pure salt. If the specimen tested was of this strength, it should have been efficient in the proportion of 4 per cent., or 1 : 25; but it failed in two experiments in this proportion, and in one in the proportion of 8 per cent. The biological test is sufficiently accurate to make it appear probable that this particular specimen did not come up to the standard as laid down in the *Dispensatory*.

[1] In the chapter on Germicides and Antiseptics in my recent work (*Bacteria*), the figures are erroneously given as 1 : 1000. This mistake resulted from the fact that I had not access to the original report of Dr. Koch, and was obliged to obtain my figures from abstracts in medical journals at hand. Unfortunately, the figures were incorrectly given in the journal from which I

Another sample by the same maker, purchased in a drug store in this city, has recently been tested, at my request, by Dr. Duggan (M.D., Ph.D., and late Fellow in Chemistry in Johns Hopkins University), whose valuable assistance I now have in the prosecution of these experiments. Dr. Duggan reports that this sample failed to destroy the bacteria in broken-down beef-tea (2 hours' exposure) in the proportion of 5 per cent. and of 7 per cent., but was effectual in 10 per cent. It would appear, therefore, that my last experiment (8 per cent. failed) was just within the limits of the proportion which would have been successful if the samples tested were identical in composition.

Dr. Duggan's experiments were made in duplicate, and by the method described in detail in my paper referred to by Prof. Bartholow.

I now pass to the last clause of Prof. Bartholow's reference to my experiments. He says:

"As the experiments of Miquel have been more recently performed, and the conditions insisted on by Jalan de la Croix more perfectly observed, we may rather accept his conclusions in regard to the real value of permanganate of potassium as a germicide."

It is, perhaps, open to question whether the experiments of Miquel are more recent than my own. He says, in his work published in 1883:

"Les récherches longues et fastidieuses que j 'ai entreprises depuis deux ans sur cette matière me paraissent assez avancées pour qu'ou puisse déja en retirer quelques indications utiles" (p. 291).

My own experiments were published in April, 1883, and there is no evidence that those of Miquel have priority as to date. But this is a matter of comparatively small importance. The question is as to the comparative value of the two series of experiments. As regards the permanganate of potassium, they cannot be compared at all, as my experiments relate solely to the *germicide* power of this agent upon a single test-organism; while those of Miquel relate to the power of this and other agents to prevent the development of the bacteria of putrefaction in a given quantity of beef-tea (1 litre). Miquel's experiments establish, by a very satisfactory method, the *antiseptic* power of the agents studied by him, but give no definite evidence as to the *germicide* power of these agents.

In the case of permanganate of potassium, the immediate effect of adding this agent to a litre of beef-tea would be, if it were added in excess, to destroy by oxidation all of the organic material in the fluid, and to decompose a corresponding amount of the salt. The excess of the salt would then have time to act upon any spores of bacilli and other germs present; but even if not destroyed, these would not develop, for the reason that all of the pabulum suitable for their development would have been quickly destroyed by this powerful oxidizing agent.

In my experiments to determine the minimum quantity of various reagents which would prevent the development of bacterial organisms—that is, to determine the *antiseptic* value of the reagents named —I purposely excluded the permanganate of potas-

sium, for the reason above indicated. But the experiments with other agents were made by a method quite as reliable as that of Miquel, and, indeed, by one which does not differ materially from it, except as regards the quantity of fluid employed. In these experiments, I added a given quantity of the agent to be tested to a culture-fluid, introduced this culture-fluid into a number of the little flasks which I so constantly use and have repeatedly described, sterilized the fluid in the flasks by long boiling, and then tested the power of the various test-organisms to develop in the flasks in the presence of a given quantity of the reagent under trial. By multiplying these experiments, and adding more or less of the reagent, according as development occurred, or otherwise, I determined the minimum quantity of each reagent which would restrict development. I found, for example, that all of the test-organisms multiplied freely in the presence of 0.1 per cent. (1 : 1000) of carbolic acid, and that none of these organisms multiplied in the presence of 0.2 per cent. (1 : 500).

In regard to the method which I have employed and continue to employ, I would say, finally, that it fully meets the most rigid exactions of science; that it has the approval of experts in chemical and in biological investigations at the Johns Hopkins University who are familiar with it; and that I shall be very happy to demonstrate its special advantages to Prof. Bartholow, or to any physician or sanitarian who may desire to satisfy himself of the reliability of the results which I have reported, or may hereafter publish, if he will do me the favor to call upon me at the laboratory where I am now engaged in extended experimental investigations in this direction.

I have considered it necessary to be thus explicit, because it is evident that the misapprehension which has led so distinguished a physician and teacher as Dr. Bartholow to express a certain scepticism in regard to my experiments relating to permanganate of potassium, may also influence others for whose benefit this voluntary work has been done, and thus neutralize the value of my efforts for the advancement of exact knowledge in this direction, and take away the only reward which an investigator can hope for, viz., the appreciation and confidence of his professional confrères.

The experiments of De la Croix, like those of Miquel, have reference especially to the antiseptic power of the agents tested by him. He makes the statement, however, that one part of potassium permanganate in thirty-five, kills the bacteria of broken-down beef-tea. This statement is, no doubt, true, under the conditions of his experiment; but, as I have shown, the result depends upon the time of exposure and the amount of organic matter present, quite as much as upon the proportionate amount of permanganate with reference to the quantity of fluid operated upon. If we add one gramme of permanganate to a litre of broken-down beef-stock, it is quickly decomposed, and no germicide effect is produced; but if we add one drop of putrid beef-tea to a litre of distilled water containing one gramme of permanganate, the organic matter, and the germs as well, contained in this drop of fluid are quickly destroyed by oxidation.

Several English investigators—Notter,[1] Calvert,[2] and Tripe[3]—have attempted to determine the value of potassium permanganate as a "disinfectant;" but the methods employed have not been such as could give satisfactory and definite results, although these earlier experiments demonstrated the value of this agent as an antiseptic and deodorizer.

Other English investigators—Baxter,[4] Braidwood, and Vacher[5]—have adopted a different test, and their results are interesting and valuable.

These gentlemen operated upon vaccine lymph, and the test of disinfection was the failure of this lymph to produce characteristic vesicles upon the arms of children not previously vaccinated. Comparative experiments were made in each case with lymph not subjected to the action of the disinfectant.

In Baxter's experiments, one part in 200 was successful in destroying the specific virulence of vaccine lymph; and in those of Braidwood and Vacher, a like result was obtained by adding two drops of a solution of 1 : 120 to "a tube of lymph."

From what has been said, it is evident that, while potassium permanganate has decided germicide and antiseptic power, it is not generally applicable for purposes of disinfection, because of the readiness with which it is decomposed by organic matter. It is, however, a prompt and valuable deodorizer.

Finally, I have a practical suggestion to make in regard to the use of this agent. We have ample experimental evidence showing the germicide potency of mercuric chloride; but in domestic sanitation there will always be some apprehension of accident on account of the poisonous character of this agent, and the absence of all color or odor in a solution containing it.

Now, the permanganate of potassium has an intense color in dilute solutions, and there would be no danger that a liquid containing it might be mistaken for a potable fluid. No chemical reaction occurs when corrosive sublimate and the permanganate are mixed in the same solution, and I propose the following as a standard "disinfectant" for domestic and general use—for the special purposes for which such a solution would be applicable, viz., the disinfection of sputum (in diphtheria, tuberculosis, etc.), and of liquid feces (in cholera, typhoid fever, etc.):

Bichloride of mercury and permanganate of potassium, of each two grammes. Distilled (or boiled and filtered) water one litre.

This gives exactly one part of each of the salts to 500 of water. A solution of two drachms of each of the salts to a gallon of water would come near enough to this strength for practical purposes.

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[1] Dr. J. Lane Notter, Dublin Journal of Medical Sciences, vol. lxviii. (1879), p. 196.

[2] Dr. Grace Calvert, Chemical News, London, vol. xxii. (1870), p. 281.

[3] Dr. John W. Tripe, Sanitary Record, London, vol. ii. (1881), p. 201.

[4] Dr. E. B. Baxter, Report on the Experimental Study of Certain Disinfectants. Report Medical Officer Privy Council, etc., N. S. No. vi. (1875) p. 216.

[5] British Medical Journal, London, vol. ii. (1876).

Experiments recently made indicate that this would be an efficient disinfectant for liquid feces, etc., if used in an amount equal to the material to be disinfected. (Full details of these experiments will be published hereafter.) The permanganate in this standard solution, in addition to the protection which its color would afford, has the advantage of acting as a prompt deodorizer, while the bichloride has no deodorizing power.

It must be remembered in practice that the germicide power of such a compound is not instantaneous, and it will be necessary to leave the material to be disinfected for an hour or more in a vessel with the disinfectant before it can be safely thrown into a privy-vault, or other receptacle where fresh pabulum for pathogenic bacteria may be present.

REMARKS UPON CHRONIC CONTRACTED KIDNEY WITH NORMAL URINE,

INCLUDING ACUTE GOUTY DEMENTIA WITH A PERFORATING RECTO-VAGINAL ULCER, AND DEATH FROM SUDDEN PULMONIC ŒDEMA.[1]

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MRS. L., an intelligent lady, about forty years of age, the mother of five children, of gouty ancestry. At regular intervals of four years she was accustomed to have very violent acute attacks of gout or rheumatism associated with great systemic disturbance and depression of spirits. As the last gouty sickness was in the early spring of 1880, she was in the spring of the present year in great fear of another attack, and an attempt was made under the direction of her medical adviser, Dr. Tomlison, to ward off such sickness by careful diet and free horseback exercise. For the early notes of her case I am indebted to Dr. Tomlison. An exposure to cold during the night of April 20 was followed by severe coryza, vague pains, and great hebetude with a very pronounced desire to sleep. Even when moving about she seemed unable to keep her eyes open. Under treatment she improved temporarily. Dr. Tomlison writes concerning this period, "I could discover nothing wrong with the urine, which she passed in usual quantity. A week later she began to have difficulty in expressing herself; she would use irrelevant words and then correct herself; her gait also grew uncertain, and in walking she would pitch forward as if she were going to fall. April 28, Mrs. L.'s mother died; Mrs. L. was greatly shocked, and rapidly became worse; she was greatly depressed, lachrymose, hysterical, had hallucinations, and ceased to recognize those around her. She lost her appetite, and became constipated. The uncertainty of movement now affected the arms, and there was great failure of memory. Her symptoms continually deepened, the speech became more and more incoherent, until it was a confused, senseless jargon. She now refused food, and finally staid in bed in a state of perpetual stupor. The tongue was heavily coated, the breath very offensive. There was no elevation of temperature, or pains, or local soreness."

I first saw her May 8; I found her in bed in a sort of stupor, out of which she was with difficulty wakened. Getting her partially aroused, I ordered the nurse to put on a wrapper; then commanding and leading the patient, succeeded in getting her to the head of the stairs, then down stairs. It was necessary to hold her very forcibly, as every few minutes her knees would seem to give way and she would "flop" to the floor. All this time she said nothing other than incoherent protestations. When she finally was in the parlor, I upbraided her loudly and severely for her dishabille and general appearance. On asking her if she was not ashamed of herself, she said she was, and that she had better go upstairs and change her clothes. On my acquiescing, she stood up, and taking the hand of her nurse walked upstairs, dressed herself with assistance, and came down, recognizing people, but saying very little. I left her eating her breakfast. Her urine was examined at this time; it was loaded with uric acid and urates, although she had been eating very little, had a specific gravity of 1024, and contained no tube-casts, and not the faintest trace of albumen.

She came to the city May 11. She was now completely demented, knowing no one and not recognizing in any way her surroundings. The pupils were contracted and immobile. She ate no food except milk, which was forcibly given her at regular intervals. Much of the time she lay in a stupor in bed; then she would have spells of wandering restlessness; again distinct maniacal outbreaks accompanied by violence and indecent speech, or sometimes attacks of muttering delirium. The tongue was brown, dry, coated to the last degree. The teeth were loaded with sordes; the breath horribly offensive; the bowels were obstinately constipated. She was treated with purgatives, quinine, chloral, and morphine when excited.

During these days there was general tenderness, so that whenever she was taken hold of roughly she would scream out, even rousing from a stupor. There was also on movement distinct pain, not located in the joints, but seemingly in the muscles. There were very bad hemorrhoids, and as times the patient lay stupid but moaning, with knees drawn up as though there was abdominal pain. The pulse was quick, never much under a hundred, small and feeble rather than strong. Her mental condition grew worse, she took no note of anything, had to be catheterized, etc.

By May 16, the general tenderness had become very pronounced; the pupils were dilated and movable; the intelligence somewhat improved, in that she began to take notice. Salicylates and digitalis were at this time being used freely. On 17th, severe diarrhœa with involuntary passages set in; also the pulse altered suddenly its character, becoming excessively irregular, from 110 to 150 per minute, with beats of all sizes and rates, and many complete intermissions. General tenderness very marked. Auscultation of the heart showed the first sound very weak

[1] Read before the College of Physicians of Philadelphia, Nov. 5, 1884.

over the right base; at the left apex the first sound was very weak, the second decidedly accentuated. Over the middle cardiac region the sounds were singularly confused, with a peculiar watery and occasionally grating sound, "believed to be cardiac friction, but no clear, positive, to-and-fro friction râle." A blister was applied over the head and one over the heart.

May 18, menstruation had been established; the pulse had become perfectly regular, 100, and the peculiar middle cardiac sound less distinct. Her mental condition so far improved that she indicated when she desired to pass water, but she could not give a coherent answer to the simplest question.

On the 20th, she, when roused, answered simple questions with some rationality. Severe diarrhœa again manifested itself with involuntary passages and lasted many days, indeed, off and on, almost to the end; remedies simply kept it in check. There were no maniacal outbreaks, and a slow but progressive improvement in her mental condition began very distinctly directly after the violent diarrhœa of the 20th. The first change was in the recognition of her husband; then, when she had a desire to stool, she would insist on getting out of bed to the commode, although she never said why she got up. Then she resisted food and medicine, clearly because she had a will not to have them. On the morning of the 20th she took food herself, knew where she was, and wondered greatly as to the way in which she had got there, having no memory of past events.

June 23, it was first noticed that something was wrong with the vaginal discharge, but a vaginal examination failed to detect any abnormality. On the morning of June 25 feces were plainly passed per vaginam, and there was discovered a perforation of the recto-vaginal wall very low down, sufficiently large to admit easily the whole forefinger into the rectum. The edges were soft and not well defined. There was no hemorrhage, local swelling, or pain during the formation of this opening, and it was not distinctly sore.

The mental condition of Mrs. L. continued to improve until about the first of June. At the same time her tongue cleaned and her breath became sweet. June 1, she was entirely rational, recognized her surroundings and friends, servants, etc., in their proper relations. She spoke very sensibly about her own illness. The memory was very much improved, but by no means normal, and there was an absolute lack of power of mental exertion; but the only thing a casual observer would have noted as peculiar was the character of her voice, which remained very unnatural.

The first indication of a relapse occurred about the first of June, in a renewed coating of the tongue; then she began to talk irrationally at night, and her memory rapidly to fail. Then a tendency to drop or elide words from her sentences came on and was very pronounced. Her talk in the night began to be irrational and incoherent. At times she was quiet during the day, at other times very restless. At night she was very wakeful and restless, getting out of bed, wandering about rooms, etc. Much of the time she had an almost uncontrollable desire to pick at her nose and genitals; some days she refused food, others took it. The pulse ranged from 100 to 120, and her physical strength distinctly increased.

From this time onward her mental state deteriorated rather than ameliorated. She lost power of knowing those about her, although she still recognized her husband; the memory was entirely lost; in a word, she was in a condition of almost complete dementia. July 18th, the breathing became suddenly accelerated, and some fine subcrepitant râles were heard posteriorly; on the morning of the 18th, her breathing grew much worse; the whole upper lobe of right lung was full of very fine crepitation, the left lung also containing râles. This continued for two days with some slight dulness of percussion on left apex, and then gradually subsided. Some days after this she had an equally sudden attack of œdema of the feet. June 24, she was taken about 11 P.M. with violent dyspnœa accompanied by fine crepitation anteriorly and superiorly in both lungs, and almost complete absence of breath sounds over the posterior lobes. The dyspnœa steadily increased and she died asphyxiated after twenty-four hours of struggle.

Autopsy.—Kidneys large, plainly in the early stage of chronic interstitial nephritis. Heart somewhat hypertrophied; valves normal. Much excess of fluid in pericardium, but no exuded lymph. Lungs highly œdematous; considerable peritoneal as well as pleural serous effusion.

Brain: Basilar arteries; walls very much thickened, sufficiently so to interfere distinctly with lumen; smaller arteries also showing signs of similar endarteritis; the upper and to some extent the basal submembranous spaces everywhere distended with exuded fluid; fine vessels of the membrane somewhat congested; a very little lymph in some spots in the membranes. Brain substance very anæmic; the convolutions appeared shrunken; consistence normal, no spots of softening or macroscopic changes to be detected; microscopical examination of the convolutions failed to demonstrate anything abnormal, although the cells were perhaps more granular than normal.

There are certain points about this very remarkable case to which it may be worth while to direct the attention. The cause of the dementia cannot positively be asserted; but I am very strongly inclined to think that it was, at least in part, due to gouty irritation.

It seems to me well established that gout is capable of causing almost every form of insanity; indeed, insanity is only an increase of the mental conditions frequently seen in lithæmia. Carrol, in 1859, said, "Gouty mania is occasionally seen," and in 1875, Dr P. Berthier (*Des Nevroses Diathesiques*, Paris) published a collection of 46 cases of nervous disease attributable to gout: 1, hallucinations; 1, migraine; 4, tetanus; 3, chorea; 1, hypochondria; 7, epilepsy; 1, paralysis, and 26 of mental affection, including in these dementia, melancholia with stupor, mania. Although in some of these cases the evidence is not at all positive that gout was the *materies morbi*, yet in others the relation seems to have been clearly made out.

In his paper before the International Congress of London (vol. iii. 640), Dr. Raynor supported the following conclusions:

1. Protracted gouty toxæmia when not very intense, usually results in sensory hallucinations or melancholia.

2. Sudden and intense toxæmia results in mania or epilepsy.

3. Intense and protracted toxæmia usually results in general paralysis.

4. If there be a tendency to vascular degeneration from plumbism, alcoholism, etc., varying degrees of dementia are produced

In the discussion which followed the reading of Dr. Raynor's paper, Drs. Savage and Crichton Browne, of London, both expressed the belief that gout does cause insanity, the latter, however, qualifying by the statement—only where there is hereditary predisposition to insanity.

Further proof of the connection between gout and insanity may be found in the Paris Thèsis of M. Belliard (1882, No. 269), in which are detailed various cases.

The facts that, in Mrs. L., the attack was at the time when an explosion of gout was to be expected; that in all her previous attacks mental depression was a distinct feature; that her urine was loaded with lithates, although she was taking very little food; and that there was widespread exquisite tenderness and soreness to movement, with febrile reaction, appear to establish a gouty etiology. The contraction of the lumen of the basilar arteries was seemingly sufficient to check the freedom of blood-supply to the brain. Brain anæmia certainly existed, as was proven by the autopsy, and no doubt it aided in causing mental weakness.

It is certainly worthy of remark, as confirmatory of the generalizations made by Dr. Raynor, that the type of mental disturbance exactly corresponded with his conclusions. There was a pronounced tendency to vascular degenerations, and the mental disturbance partook of the nature of dementia.

Passing from the discussion of the etiology of the case, we note the rapid formation of a recto-vaginal circular ulcer as most extraordinary; its occurrence was entirely spontaneous. It seems to resemble in its nervous pathology the rapid eschars which sometimes form upon the buttock and extremities in severe myelitis, or, perhaps, even more closely the so-called perforating ulcer of the foot.

The temperature sheet of this patient was remarkable, owing to the differences between the two axillæ; although, as the autopsy showed, there was no focal brain lesion to account for such difference.

Irregularities of local temperature are well known to occur in diseases of the brain, and the temperature in the two axillæ in the present case was first tested for diagnostic purposes. The result shows that we may have such irregularities of temperature when there is no local lesion. In a case now under my care at the Philadelphia Hospital, believed to be suffering from an acute myelitis, the temperature for many days varied in the two axillæ from 0.2° F. to 1.5° F. To my mind, it is evident that we need careful bilateral studies of temperatures in various diseases.

The point to which I want to direct especial attention, however, is that the urine was examined at various times by Dr. Tomlison without his finding any evidence of contracted kidney, although such lesion existed. My first glance at the patient made me think that she had chronic Bright's disease, but a very careful examination of the chemical reactions, the specific gravity, and the microscopic deposits of the urine so entirely failed to justify any suspicion that I was entirely misled in this feature of the case. I should here state that my own examinations of the renal secretion were so entirely in accord with the statement of Dr. Tomlison, that they were not, as they ought to have been, repeated upon various specimens of the urine. As already stated, the aspect of Mrs. L. suggested the existence of chronically contracted kidney, but there was no increased arterial tension; the heart's action, whilst she was under my care, being uniformly feeble. It is many years since I ceased putting confidence in the absence of albumen as being of much value in disproving the existence of contracted kidney, but I have hitherto believed that reliance could be placed upon the specific gravity of the urine. The importance of examining the specific gravity of the urine cannot be overestimated; and the import of a persistent specific gravity of 1010 or under can scarcely be mistaken; but in addition to the case just detailed, the following is of great interest as indicating that normal urine may accompany a fatally diseased kidney.

Mrs. —, aged 58, the mother of two healthy children, consulted me in the month of April, 1883, on account of certain spells which afflicted her. The history she and her daughter gave was in brief as follows: The attack first began in 1876, about the time she ceased menstruating, and had continued ever since; they always came on when the stomach was empty, and were sure to happen if at any time during the day she was more than three hours without food; also if she does not get breakfast upon rising, she is sure to have a seizure; excessive fatigue increases the tendency to attacks. The spell commences with extreme pallor of face, and dark rings under her eyes: if walking her gait becomes very slow, if talking her speech slackens and then ceases; she looks around in a dazed, bewildered manner, but does not fall, and is not convulsed at all; she does not become completely unconscious, but does not know where she is or what is going on about her; if a mouthful or two of food be forced down her, she arouses immediately, but has no memory of what has occurred during the spell. A careful examination of Mrs. — resulted in complete negations, so far as organic disease was concerned. The urine was normal; there was no failure of mental power, choked disk, palsy, headache, or other local symptom discoverable, and I finally settled down to the diagnosis of gastric vertigo. Under appropriate treatment, the patient improved, and I saw her at my office for the last time July 4, 1883.

In April, 1884, I was hastily summoned to her bedside, and found her comatose, with a history of distinct convulsions, which were said to have been diagnosticated as hysterical by a neighboring practitioner, who I was also told, after examination of the

urine, had stated positively there was no disease of the kidneys. On post-mortem examination, the brain was found normal, but the kidneys presented the gross appearances of advanced contracted kidney; and careful microscopical examination by Dr. G. A. Piersoll proved that the condition of the organ was as it appeared.

A second case bearing upon the matter in hand, is that of Mrs. I. W. T., a large, stout woman, who came to my office early last March on account of failing eyesight. Her appearance and description of her symptoms led me to think that she had albuminuric retinitis; but without any examination, I sent her to Dr. Harlan, who reported that she had unmistakable albuminuric retinitis, and that no local treatment would be of service.

Her urine had, the day of her return to me, a specific gravity of 1020, and with the nitric acid gravity test yielded no cloud, or one so faint that I could not be sure that it existed, and noted, "believed to have a trace of albumen." According to her estimate, she was passing two and one-quarter pints a day.

April 3.—She passed three and a half pints, having a specific gravity of 1010, and totally free from albumen.

21st.—Urine three pints, specific gravity 1015; no albumen.

The symptom of increased arterial pressure and cardiac hypertrophy, upon the diagnostic value of which stress has been laid, afforded in the group of cases here narrated no aid. The patients were all large, stout, middle-aged, married women, with full busts, making the recognition of a slight degree of hypertrophy exceedingly difficult, and the circulation in the two more serious cases was certainly enfeebled.

The practical conclusion to be drawn from these cases is, that reliance cannot be placed upon a single examination of the urine, but that in any doubtful case of chronic disease it is our duty to examine the renal secretion repeatedly, noting whether albumen appears after a heavy meal of flesh, and whether the urine of abstinence is of abnormally low specific gravity. I have seen patients who certainly did not have Bright's disease, but in whom an irritant drug or an alcoholic excess would produce albuminuria. It is to my mind very probable that such people will eventually develop renal disease. At any rate, these cases have suggested to me that possibly, as we employ purgatives to make a so-called therapeutic test in a case of suspected typhoid fever, so we might use cantharides, turpentine, or other irritant drug in a case of suspected Bright's disease. If on trial it should be found that a slight irritation would seriously affect the urine, the case should be looked upon with the greatest suspicion.

MEDICAL PROGRESS.

Atropia in Choloroform Inhalation.—Referring to death by syncope during anæsthesia by chloroform, Poirier refers to the experiments of MM. Dastre and Morat, in which they utilize the known power of belladonna to paralyze the moderator nerves of the heart. Experiments were first made on dogs, and the results obtained were so encouraging that Aubert, Gayet, and Tripier, surgeons, of Lyons, were induced to try it on the human subject, and they obtained gratifying results.

The following solution was employed:

Atropiæ sulph., ...	$\frac{1}{14}$ gr.
Morphiæ hydrochlor., . . .	1½ grs.
Aquæ dest., ...	2½ ʒ.

Hypodermic injection of a Pravaz syringeful was given from twenty to thirty minutes before the inhalation of the chloroform. The advantages of this procedure, which is now daily practised in the hospitals of Lyons, are the following: Security, greater rapidity with which anæsthesia is produced, absolute quiet of the patient, ease with which consciousness returns, and simplicity of results.—*Le Progrès Médical*, Dec. 13, 1884.

The Incubation of Variola.—In an interesting paper on this subject in the *Revue de Médecine*, December, 1884, M. Vinay arrives at the following conclusions:

1. The mean duration of the period of incubation is from eleven to twelve days. It appears to be shorter in the hemorrhagic form, in which it is usually but six or eight days But in the latter, the variations of duration do not bear any relation to the gravity of the disease.

2. Incubation is not prevented, nor its progress modified, by the presence of a preceding febrile disorder. Vaccination alone prevents or modifies the eruption of variola.

3. It is doubtful whether at this period contagion by simple atmospheric media can be caused, but the disease may now be transmitted by inoculations of blood or by vaccination. This last occurrence may result especially during an epidemic of variola. To prevent it, it is preferable to use only animal vaccine, and if it be impossible to obtain this, vaccination from arm to arm should not be practised. It is better to recultivate the vaccine, to keep the vaccinifer under observation, and not use the product within twelve or fifteen days.

4. Not only does vaccination prevent the development of smallpox when it is practised in season, but it also moderates the eruption—lessens it and renders it more benign, even when practised after variolous infection and during the incubation. Success is best assured when it has preceded the appearance of the variolous fever quite a number of days, and is almost *nil* within three or four days. When the fever has appeared, it is useless to resort to vaccination. Whatever the procedure—pricking, scarification, or subcutaneous injection—the progress and severity of the disease are not at all modified.

The Treatment of Ozæna.—Loewenberg, in an instructive article in *L'Union Médicale*, Dec. 2, 1884, on Ozæna, remarks that the discovery of living microbes in the discharges is an indication for energetic parasiticide treatment. To this end he employs:

1. The *nasal douche* with a solution of 1 part (of corrosive sublimate) to 9000 or 10,000 parts of water, gradually increasing the sublimate, so long as the patient can endure it. That the veil of the palate be

elevated during the application, it is recommended that the vowel *a* be sounded.

2. The *nasal bath*, which is accomplished as follows: The douche being completed, the patient inclines the head backwards, so that the nostrils become the most elevated point of the naso-pharyngeal cavities. While in this position, the solution of corrosive sublimate is gradually introduced through one nostril till it is at the point of escaping by the other, the patient all the time breathing through the mouth, or sounding the letter *a*. It is thus made certain that both nasal fossæ are filled, since the fluid in them conforms to the hydrostatic law of communicating vessels.

3. After the douche and nasal bath, the treatment is terminated each day by insufflations of an *impalpable powder of boric acid;* it is necessary to proceed with great care so as to spread the powder uniformly upon the whole interior of the nasal fossæ and upper pharynx, especially when there is much lateral deviation of the septum. The sounding of the letter *a* is here generally recommended to prevent the acid from reaching the larynx.

The results of the above treatment much excel those obtained by the nasal tampon, which is objectionable on account of retaining fetid discharges. The method as indicated above, destroys the fetidity of the discharges, and marked improvement of the general health follows its use.

TREATMENT OF SYPHILIS.—At the International Medical Congress of Copenhagen the treatment of syphilis by hypodermic injections was ably discussed by various members. PROF. LEIBREICH considered formiamide of mercury the best preparation for hypodermic use, since it is extremely soluble and very slightly irritating.

MARTINEAU asserted that by this means the physician is certain to cure all manifestations of syphilis—normal or abnormal. The form of mercury preferred, according to his experience, is the peptonate of mercury and ammonia.

WOLFF (of Strasbourg) used neither the peptonates nor the formiamides, but preferred the following:

1. Carbonate of soda, 23 grains; water, 3½ ounces.
2. Corrosive sublimate, dissolved, 57 grains; water 3½ ounces.
3. Glycocoll, 38 grains; water 3½ ounces.

The glycocoll may be replaced by asparagin or alanin, or, better still, by sarcosin.

Each of the three above preparations is made in a separate bottle, and they are mixed in equal parts at the time of using. Each syringeful of fifteen grains contains exactly one-sixth of a grain of the oxide of mercury. The injection is made two days in succession, the patient being then left one day without treatment. The operation may be repeated twenty-five times without accident.—*Annales de Derm. et de Syphilig.*, Nov. 1884.

DISGUISED FORMS OF MALARIAL POISONING.—In an interesting paper with the above title, DR. F. SIMON, in the *Rivista Clinica de Bologna*, shows the necessity, especially in children, in obscure and serious cases, of holding in mind the possibility of such conditions, and insists upon the efficacy of sulphate of quinine in their treatment after all other remedies have failed. He cites three cases in which the symptoms noticeable were, in one, suffocation, followed by persistent dyspnœa; in another, an intermittent fever and torticollis, manifested twice daily and at regular intervals; in a third, a simple intestinal catarrh, followed by a very profuse, muco-sanguinolent diarrhœa. In every case the administration of quinine was followed by permanent improvement.—*Gaz. Med. di Torino*, Dec. 15, 1884.

THOMSEN'S DISEASE AND PSEUDO-HYPERTROPHIC PARALYSIS.—In the *Archives de Neurologie* of November, 1883, DR. ROMAN VIGOUROUX reaches the following conclusions concerning this disease:

1. The hysterical attacks primarily resemble the advent of common epilepsy.
2. Some cases exceptionally simulate an attack of *le petit mal.*
3. Again the attack resembles partial epilepsy (Jacksonian epilepsy, or epilepsy due to cerebral lesion).
4. False partial epilepsy of a hysterical nature is like partial true epilepsy, characterized either by one-sided spasm with rotation of the body and eyes of the convulsed side, or by monoplegia.
5. Partial epileptoid seizures often constitute the whole attack of hysteria, and are followed neither by marked spasm nor by hallucinations.
6. The approach of false partial epilepsy is shown commonly by a series of attacks followed by a true epileptic condition.
7. The symptoms which enable false partial epilepsy to be diagnosticated from true partial epilepsy are:

a. Absence of pyrexia in false partial epilepsy.

b. Absence of paralysis of the convulsed limbs in false Jacksonian epilepsy.

c. Less significant, but pointing to the hysterical nature of the case, are the opening of the mouth during the approach of the attack, contractions of the eyebrows, and undulatory movements of the belly at the beginning and during the intervals between the crises.

8. Other useful elements of diagnosis are the effects of ovarian compression, failure of potassium bromide, and establishment of permanent symptoms of hysteria after the attack.

ACTION OF HYDROCHLORATE OF COCAINE UPON THE MUCOUS MEMBRANE OF THE PALATE, THROAT, AND LARYNX.—DR. ARTHUR GEIER, in the *Berliner klin. Wochenschrift* of Dec. 15, 1884, in a paper with the above title, calls attention to the following points:

1. The action of cocaine begins in from one to two minutes after its application and lasts about ten or twenty minutes.
2. Before the objective action of cocaine appears, the subjective results are manifested and outlast for a short time the objective.
3. With the remission of the subjective symptoms the characteristic appearance of the mucous membrane returns as it existed before the application of the cocaine.
4. Anæsthesia need not be complete—*i. e.*, touch may be felt even in very sensitive individuals without reflex action being excited.
5. The subjective symptoms exist in the feeling of numbness, dryness, swelling, and in failure to perceive mucus and saliva in the movements of deglutition.
6. The sense of taste is blunted and the sense of

touch abolished, while the sense of temperature remains.

In all the cases the statement was made that the button of the laryngeal sound felt "cold."

Coca and Cocaine.—Coca is the leaf of the erythroxylon coca, of the family Malpighiaceæ, and is a native of Peru. The leaves are the only part of the plant used. The use of the coca leaves is very extensive in Peru, Mexico, and Bolivia. Cocaine is an alkaloidal extract of coca; it was discovered by Niemann in 1860, and carefully studied by Lassen, in 1864, who found a second alkaloid, *hygrine*. Cocaine is solid and crystallizes in prisms of from 4 to 6 sides. It is colorless and odorless; soluble in water and alcohol, and is very soluble in ether. It has an alkaline reaction, and saturates acids to form very soluble salts which, with the exception of the hydrochlorate, crystallize with difficulty.

Ecgonine. If, instead of saturating hydrochloric acid with cocaine, it and the acid be heated to 212° Fahr., in sealed tubes, a new base is obtained, to which Wöhler gave the name ecgonine, benzoic acid and methylic alcohol being formed at the same time—ecgonine is very soluble in water, and insoluble in ether. It has not yet been used in therapeutics.

Niemann gives the following as the process for extracting cocaine: The leaves are digested in 85° alcohol, to which a little sulphuric acid is added. Into this is put a slight excess of milk of lime, and the mixture left standing for a time. The alcoholic liquid is then poured off, neutralized with sulphuric acid, and evaporated to the consistency of an extract. A blackish mass is thus obtained which yields its sulphate of cocaine to water. By precipitating this solution with carbonate of soda, cocaine is obtained, which is purified by being dissolved in ether and then crystallized in alcohol.

Lassen prefers the following method: The leaves are exhausted with cold or slightly warm water; the macerated residue is precipitated by the addition of subacetate of lead, the excess of which is then cautiously removed with carbonate of soda. After filtering, the watery liquid, the reaction of which should be only *slightly* alkaline, is agitated with ether, which dissolves the cocaine. On evaporating this, ether leaves he crude cocaine, or it is purified by dissolving it in water acidulated by hydrochloric acid, and then dialyzing. The hydrochlorate of cocaine passes rapidly through the septum, and is precipitated with carbonate of soda. One kilogramme of leaves yields about two grammes of cocaine.

Hygrine is another alkaloid found by Lassen in coca leaves. It may be obtained from the watery fluid from which cocaine is separated by shaking up with ether. To this fluid an excess of carbonate of soda is added; the lime salts are precipitated and hygrine liberated. It is then obtained by shaking up with ether, and a brown, slightly alkaline liquid is obtained by evaporation. Hygrine is a liquid and volatile alkaloid, with a strong odor of trimethylamine, and forms crystallizable salts with acids.—*Progrès Méd.*, Dec. 13, 1884.

Thallin.—The industry of continental chemists in the application of the synthetical methods to the formation of new compounds has brought to light a new antipyretic agent, which appears to have been used successfully in a large number of cases in the clinic of Prof. Nothnagel. It has the constitution of a secondary chinoline base, being one of a number of chinoline derivatives prepared by Prof. Skraup, and is represented by the systemic name, "tetrahydroparachinanisol." The salts of this base, which have an acid reaction, are freely soluble in water, and have the property of forming green compounds when treated with solution of ferric chloride and oxidizing agents. On account of this peculiarity, the cumbrous systemic name has been dropped in favor of the shorter designation, "thallin." The hydrochlorate, sulphate, and tartrate of thallin and the hydrochlorate of ethyl thallin are the salts that have been employed, and these are said to show great antipyretic activity in doses of quarter, half, and three-quarters of a gramme, a point in which thallin would seem to compare favorably with some of its competitors. The lowering of the temperature is said to take place gradually and to last a considerable time, whilst it is not accompanied by any secondary disturbances. Thallin can be conveniently administered in wafers containing a quarter or half of a gramme of the sulphate. Two other chinoline derivatives have been experimented with; one of them has but slight antipyretic properties, while the other was fatal to guinea-pigs in doses of from 2 to 6 grammes, violent tetanic seizures being excited.—*Lancet*, Dec. 6, 1884.

Cocaine as a Urethral Anæsthetic.—Dr. A. Blumenfeld, in a preliminary note on this subject, reports having used cocaine for producing anæsthesia of the male and female urethra. He first used it in cases in which catheterism was painful, injecting ♏ xxx–xlv of a two per cent. solution into the urethra by means of a small syringe, and the fluid retained by pressure with the fingers for three or four minutes. In every case the injection produced a diminution of sensibility, and often complete anæsthesia of the whole urethra, as far back as the neck of the bladder. The anæsthesia persists for half an hour, and may be kept up longer by a second injection or by a stronger solution.—*Deutsche med. Wochenschrift*, December 11, 1884.

Physiological Action of Bromoform.—Von Horoch reports that his experiments on animals with bromoform, administered subcutaneously, by the stomach, or by inhalation, show that this drug is a general anæsthetic. The respiration is not notably influenced; the pulse continues strong and of normal frequence; and the peripheral ends of the vagus retain their irritability. The blood-pressure falls during narcosis, but rises again with the discontinuance of it. The irritability of the vaso-motor centre is lessened, and the reflex irritability is entirely lost.

Administered hypodermatically, a comparatively small dose causes deep and lasting narcosis; due, not so much to the size of the dose, as to the ease with which the drug is absorbed. Von Horoch has had no case of abscess at the seat of injection, nor any noticeable irritation from it. He has not given it to the human subject by inhalation, but it does not cause vomiting in animals. The vapors cause considerable irritation of the conjunctiva.—*Centralbl. f. d. med. Wissensch.*, Oct. 25, 1884.

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PEPTONURIA IN THE PUERPERAL STATE.

WHILE the true significance of peptonuria is as yet undetermined, there is no doubt that it plays a part in a large number of processes, the majority of which are pathological. Recently DR. WILLIAM FISCHEL has published, in the *Centralblatt für Gynekologie*, Nov. 11, 1884, some investigations on the occurrence of peptonuria in puerperal women, and has found that peptone is present in the urine in a large percentage of cases. Thus, in 156 tests of urine from 56 lying-in women, he found peptonuria 86 times. During labor and the twelve hours immediately succeeding it, he found no peptone. During the second and third day peptonuria is almost constantly present, having been found in 24 out of 25 examinations. From the fourth to the sixth day it was found in 37 out of 44 examinations; from the seventh to the tenth day in half the specimens examined. After that time there were two doubtful reactions, but peptonuria could not be asserted.

Eliminating all but the most typically physiological cases, there still remain 15 primiparæ and 25 multiparæ in whom peptonuria was found in about the above proportion. It occurred with living and still-born, full-term and premature births, and disappeared more rapidly the more rapid the involution. In contrast to this the urine in a case of Porro's operation, examined for six days after the operation contained no peptone.

In seeking for the source of such a peptonuria it is to be remembered that Hofmeister has shown that it attends inflammatory and suppurative processes, and that, therefore, suppuration about the external or internal genitalia may be responsible for it in puerperal women. But Fischel ascertained that in his cases the external genitalia, at least, might be excluded with certainty, as these furnished in the primiparæ the most trifling, and in multiparæ absolutely no abrasions, and still less suppuration. Fischel himself learned that the lochia frequently contain peptone, but ascertained that during the second and third day it was seldom present in them, while the urine examined at this time always contained it. That the leucocytes in the puerperal uterus were also not responsible for the peptonuria seems likely, from the fact that their number is immensely less than in an inflamed lung, accompanying which the peptonuria is much less marked than that in the puerperal state.

Fischel is forced, therefore, to the conclusion that under certain circumstances the fatty degeneration of the muscular fibres, which forms a part of the process of involution of the uterus, is attended with the conversion of muscle albumen into peptone. Certainly in the substance of the fresh puerperal uterus, and almost exclusively in the muscular element, peptones are found. This Fischel has confirmed by the study of fresh specimens derived partly from operations—the hyperplastic uterus of tumors—and partly from rabbits killed sixteen and forty hours after delivery. On the other hand, he found no peptones in the non-pregnant uteri of animals, nor in pregnant uteri which had not undergone contraction. In a single instance only did he find peptone in the endometrium.

With a view to comparing this condition with analogous ones, Fischel produced experimentally phosphorus poisoning, thinking that the fatty degeneration induced by it in the albuminous tissues would afford an analogy to the fatty degeneration of the puerperal uterus and result also, perhaps, in an analogous peptone formation. In nine experiments he found peptone in several organs, of which two were tissues which, in the normal animal, never contain peptone, viz., the liver and striated muscular tissue. It was found in organs which had not as yet undergone fatty degeneration. Fischel also examined the urine of pregnant women for peptone, and found it in one-fourth of the sixty-eight investigated. With regard to its cause under these circumstances, he only ventures to suggest that it cannot have anything to do with internal suppuration, and that it may be due to contractions of the muscular structure of the pregnant uterus.

DR. OTTO KÜSTNER reports, in *Centralblatt für Gynäkologie*, November 22d, a case of peptonuria incident to rupture of an ovarian tumor into the abdominal cavity. The patient came under observation July 21st, and the next day, during an examination of the case while under ether, the sac was burst.

The urine of that and the next day, amounting to but 300 grammes, contained only a trace of peptone; on the third day, however, after the rupture, the urine gave a decided reaction with phosphortungstic acid.

The explanation furnished is that there are always peptones in the contents of such cysts; but there is no absorption of the peptones from the contents of the unruptured cyst, because of the poverty of blood-vessels in its walls. But should a cyst rupture into the abdominal cavity, the peptones are immediately absorbed, and secreted by the kidneys, peptonuria being the result, as soon as the quantity of peptones in the blood reaches a certain amount.

The intensity of the peptone reaction is always proportionate to the rapidity of the absorption of the peptone-charged fluid. The diagnostic application of this observation is found in the fact that, after the rupture of the cyst, percussion revealed practically no diminution in the area of dulness. Hence, in case of ovarian cyst, it may be inferred that the sac has ruptured, if peptonuria suddenly appear.

SUPERFŒTATION.

In resuming the consideration of that variety of superimpregnation known as superfœtation, it may be remarked that ancient authorities, among whom may be mentioned Hippocrates and Aristotle, fully believed in the doctrine. Daremberg has stated that Aristotle derived from Homer his belief in the viability of the fœtus at seven months, an example of the birth of a living child at that time having been given by the Greek poet, in the nineteenth book of the Iliad, in which Juno is asserted to have induced premature labor in Sthenelus's wife "scarce seven moons gone." It seems quite as probable that the father of medicine found in one of the versions of the story of Antiope ground for his faith in superfœtation. This beautiful maiden becoming pregnant by Jupiter, was driven from her father's house, and kindly received by Epopeus; she gave birth to male twins, one of them, Amphion, who was said to be the son of Jupiter, while the other, Zethus, was the son of Epopeus; certainly the two differed so greatly in character that one might readily believe they had different fathers.

It is more probable, however, that Hippocrates and other ancient authorities believed the doctrine of superfœtation from their ignorance of the true form of the womb in the human female, regarding it double as they had seen it in so many of the inferior animals. Now it so happens that in some of the cases in which superfœtation has been alleged, duplicity of the uterus was proved to be present, arrest of development having occurred, so that this organ retained a temporary form in the human female, but the permanent form of inferior animals. It certainly would seem to be much more probable that superfœtation would occur in a case in which the womb was double than where it is single; since in such a case the mechanical obstacle to the entrance of the spermatozoids and their ascension in the uterus which, after a certain period of pregnancy presents an impassable barrier, is not present, for of course the second half of the uterine cavity has not undergone the changes consequent upon pregnancy. It must be obvious that if superfœtation were possible, or at least if there were not very great obstacles to it, multiple pregnancy would become the rule rather than the exception, since woman is less favored than animals, who are exempt from sexual intercourse during pregnancy.

The presence of the cervical plug of mucus, which was supposed to be formed just after the beginning and remain until the end of pregnancy, may be rejected as an inconstant phenomenon, or, if present, furnishing no serious obstacle to the ascension of spermatozoids.

Union between the decidua of the ovum and that of the uterus—the decidua reflexa and the decidua vera, according to the Hunterian theory—does present an insuperable barrier to the passage of spermatozoids. According to Robin and most authorities this union occurs in the fourth month, while Schrœder gives the sixth month. It is thus seen that there is no anatomical obstacle to superfœtation prior to the fourth month at least.

The strongest argument against superfœtation is that which rests upon the suspension of ovulation during pregnancy. As the hen when hatching does not lay eggs, so the human female when carrying on a process of internal incubation does not ovulate. Almost all physiologists are agreed upon this point. Playfair, indeed, asserts that menstruation in pregnancy proves ovulation; but Dolèris justly suggests that menstruation after double ovariotomy would then prove the same thing. With Stoltz we believe that no true menstruation occurs in pregnancy, and that all discharges of blood from the uterus in such condition, even if observed periodically, are simply threatenings of abortion, or of premature labor, and should be so treated. Matthews Duncan claims that there is no anatomical reason, during the first three months of pregnancy, why the ordinary menstrual flow should not proceed from the body of the womb, and Panum (*Nord. med. Ark.*, 1882) believes that ovulation does not cease until two or three months after the pregnancy begins. It may be answered that when a woman becomes pregnant nature's vow has been fulfilled, and therefore there is no necessity for the maturing and discharge of other ovules, since single not multiple pregnancy is the law of the human race. Nature does nothing in vain was the axiom of Aristotle, but surely it would be in vain in

almost all cases for ovulation to continue during pregnancy, or any part of it. Schroeder asserts that there is not a single well proved example of the expulsion of an ovule during pregnancy; the same statement is made by Doléris.

We may, therefore, conclude from this brief review that while superfœtation is not impossible, it is in the highest degree improbable. The cases that have been adduced in its favor are either too remote from our times, or too imperfectly reported, or admit of other explanation: some of them seem in part fictions rather than facts. Time fails us to analyze the different cases on record, and show the correctness of our statement.

Most of the cases of multiple pregnancy are doubtless the result not of superfœtation, not, indeed, of superfecundation, but of simultaneous fecundation. It is probable that at each seminal ejaculation a large enough number of spermatozoids is discharged to fecundate hundreds of ovules; nature makes ample provision, probably no less in the male than in the female element, to secure the continuance of the race.

Referring now for a moment, in conclusion, to Dr. Wagner's case of quadruplets, referred to in the last number of The News, was one of the quadruplets conceived a month before the others, or, in other words, was this a case of superfœtation? The arguments in favor of this hypothesis are the greater size, weight, and vitality of one of the children—in a word, its better development. We answer—first, it is rare that even in twin pregnancy the children are equal in size and weight. A similar fact is observed in those domestic animals which produce many at a birth; thus it is common in a litter of pigs especially, to find one very much smaller and feebler than any of its brothers and sisters, and it is commonly called a runt. But no one in such cases attributes inferiority of size to superfecundation, still less to superfœtation.

Again, the difference in favor of the largest of the four children was half a pound in weight and one inch in length. Now, supposing the pregnancy to have begun in November, it ought to have ended about the 12th of August; but it ended the 22d of July, some three weeks sooner than it should have done, and as is well known even in cases of twins, still more in quadruplets, premature labor is the rule. Admitting, for argument sake, that the largest child was conceived in November, the other three in December, and that the former was born at eight, the others at seven months, did half a pound in weight and one inch in length correspond with one month of development? It is fair to state that the increase in the supposed time ought to have been from one to two inches in length and about two pounds in weight.

While, then, possibly superfœtation might have occurred in this case, we must regard it as very doubtful.

A STATE BOARD OF HEALTH AT LAST!

We are glad to learn that a renewed effort is now being made in Pennsylvania to establish a State Board of Health, and so wipe out the disgrace which attaches to this State from the fact that whilst twenty-seven States have organized protection for the health of their people, Pennsylvania and Ohio are as yet unprovided with active boards of health, and are the only important Commonwealths in the Union so destitute. Moreover, if the proposed law for a National Board of Health be enacted, this State will suffer under the disadvantage of not being entitled to representation in that organization. A conference of delegates from various local organizations has been called to meet in Harrisburg on the 13th of January, when it is to be hoped that the powerful arguments in favor of creating a State Board of Health will be so cogently presented before the Legislature as to secure the passage of the requisite Act, and a grant of the paltry appropriation needful to vitalize its provisions. The appeal is more worthy of attention and immediate action at the present time than hitherto, in view of the prospect that cholera, following its usual course in former visitations, will make its appearance upon our shores early next summer. Then, unless active and systematic measures to prevent its spread are enforced over the whole State, it will inevitably entail upon us a vast amount of suffering and death, to say nothing of the pecuniary losses which must infallibly result from its epidemic prevalence.

The outbreak of smallpox in 1872–73 is estimated, by a highly competent observer, to have cost the city of Philadelphia, directly and indirectly, several millions of dollars, and the mere rumor of a probable extension of epidemic cholera unchecked, in Pennsylvania, would involve a loss of trade from fleeing citizens, as took place in Marseilles and Toulon last year, which might readily amount to a hundred or perhaps a thousand-fold the sum required for maintaining an efficient State Board of Health. In 1879 the report of a single case of yellow fever in the South caused a shrinkage of values in the Chicago provision market amounting to one million of dollars in twenty-four hours.

One of the most conclusive arguments against the cavillers, who dispute the efficacy of systematized sanitary precautions in controlling the spread of disease, is to be found in the experience of New York during the visitation of cholera in 1866. According to the official report, upwards of a thousand cases of cholera then occurred in numerous localities more or less widely separated; and in order to prevent the spread of the malady, a well-appointed disinfecting

corps was organized, and arrangements made for squads to respond instantly to any call, either by day or night. They were provided with every requisite, and with means of transportation to secure immediate service; and the beneficial effect of their labors is shown by the statement, that in three hundred and sixty-two New York houses, where individual families or persons were smitten by cholera, but which were promptly brought under sanitary control by disinfection and local purification, the pestilence did not extend beyond the family in which the first case occurred.

CHOLECYSTENTEROSTOMY.

From a series of experiments conducted upon dogs in August, 1884, Dr. Gaston, of Atlanta, demonstrated the feasibility of establishing a communication between the gall-bladder and the duodenum—an operation which he suggests should be performed upon the human subject in preference to cholecystotomy in cases of closure of the ductus communis choledochus. The paper, which is a most interesting contribution to our knowledge of obstruction of the duct, may be found in *Gaillard's Medical Journal* for October, 1884.

In his comments upon Dr. Gaston's proposition to divert the bile directly into the duodenum, its editor states that the "great, novel, and original operation" should be known as that of Gaston. If he will, however, turn to the *Prager med. Wochenschrift*, Nos. 21 and 22, 1882, he will find that, in a case of closure of the choledoch duct of a woman thirty-four years of age, Von Winiwarter successfully performed the operation which Gaston practised in dogs. Hence any "honor and distinction" which the ingenious and rational procedure may merit, must be awarded to Von Winiwarter, and not to Gaston.

THE BACILLI OF THE MOUTH.

No more fertile source for bacteria, available to all who care to study them, can be found than the cavity of the mouth. W. D. Miller states, in the *Deutsche med. Wochenschrift* for November 27th, that if a sharp instrument be introduced between the gum and a tooth, especially if the former be from any cause slightly hyperæmic, the scrapings thus obtained leave nothing to be desired in the way of curved bacilli and spirochætæ.

In the first place, there is a comma-bacillus resembling that of cholera, but which Koch has shown to be altogether distinct. No efforts to cultivate it have as yet succeeded. A second fungus, less difficult to cultivate, is a short, plump, somewhat pointed bacterium, of which two are often united at an acute angle. The latter especially occur with rods which are in a state of fission. The fungus is mobile, growing very rapidly at the temperature of the room, and liquefies gelatine to a considerable extent. A third fungus is also a delicate rod, either straight or more or less curved, sometimes to the extent of a semicircle, so that two placed appropriately produce an O-shaped figure, and sometimes the rodlets are so rolled together that they can scarcely be distinguished from coccospheres. By fission they form coccochains, best seen in old cultures. In these Miller has found neither spore formation nor motion. They are very slow and difficult of culture on gelatine, but do not cause a liquefaction of this substance. Hence, it differs in this respect from the cholera fungus.

Miller has also found, in the mouth, fungi which are not destroyed by an artificial gastric juice, and these may pass through the stomach into the intestine, and there undergo further development. This may be true of these curved bacilli described, since he has found in his own feces undoubted curved bacilli, especially accompanying a slight diarrhœa. But these were as difficult of culture as the curved bacilli found in the mouth. Whence we may infer that the fact of a bacillus being curved is no criterion of its specificity, and that bacteria of this shape occur which have no closer relation to each other than the different bacteria which are found in the shape of cocci. Much more accurate information may, however, be expected from carefully conducted culture experiments.

DRAINAGE OF CEREBRAL ABSCESS.

In The Medical News for August 2, 1884, we called attention to the subject of drainage of abscess of the brain, and stated that up to that time only three cases had been recorded, all of which recovered, the operators having been Burchard, Fluhrer, and Fenger and Lee. In looking over the *American Journal of the Medical Sciences*, we find in the number for July, 1882, that in a remarkable case of lodgement of the breechpin of a gun in the cranium, Dr. Noyes made free provision for the escape of pus from an abscess which subsequently formed in the frontal lobe of the brain, a drainage-tube having been passed by the trephine hole through the cavity and out of the orbit. Death, however, ensued from basal encephalitis.

Unless we greatly mistake, Dr. Noyes led the way on this side of the Atlantic in draining a cerebral abscess; but the first operation of the kind must be credited to Burchard, whose case is published in the *Deutsche Zeitschrift für Chirurgie*, Bd. xv., 1881.

In this connection, we may call attention to the successful extraction of a breechpin from the brain by Dr. Kemper, which is recorded in the *American Journal of the Medical Sciences* for January, 1885. In this case, drainage was also resorted to, thereby showing the great superiority of the new over the old plan of managing such lesions.

SOCIETY PROCEEDINGS.

PHILADELPHIA ACADEMY OF SURGERY.

Stated Meeting, December 1, 1884.

THE VICE-PRESIDENT, S. W. GROSS, M.D., IN THE CHAIR.

DR. W. W. KEEN read a paper on

COMBINED TUBULAR AND CAPILLARY DRAINAGE OF LARGE WOUNDS.

The great practical importance of the subject of drainage, he said, leads me to make a few remarks this evening in relation to its use in large wounds.

The *methods* may be divided into two—first by tubes, and secondly by capillary action; and the *materials* vary in each. I reject the older mode by tents and their equivalents, as with modern antiseptic methods they are practically abandoned. For modern surgery demands that we shall strive for union by first intention and without suppuration—results unattainable by the older means just named.

The tubes employed are either rubber (usually fenestrated) or of decalcified bone. They have one marked advantage, viz., their large calibre and free discharge. Hence they are especially fitted for securing the escape of the more abundant oozing following all large operations or after opening large abscesses. I always keep several feet of such tubing in a bottle of carbolized water (five per cent.), and have not found any septic results from their use. They have, however, the disadvantage that if exposed to pressure, as in a joint, their calibre is obliterated. The decalcified bone sometimes is not aseptic and not seldom softens and collapses, especially if kept in carbolized oil. Keeping them in glycerine and alcohol or in the bichloride solution and alcohol often prevents this. But even then, within a week, they dissolve and no longer act as drains.

The second method is by capillary action. For this purpose either horsehair or catgut or rubber threads are used. They answer well in case the liquid to be drained is thin, but if thick and glairy they fail to act and are useless. Of the three, on the whole, I prefer horsehair (which, after washing, I always keep in carbolized water as above), as it is equally unirritating, can always be had, is strong, is not absorbed as the catgut is, and allows the granulations to grow in between its threads.

My special object, however, is to bring before the Academy a method I have used for some seven or eight years which unites the advantages and avoids the dangers of both methods. The chief advantage of the tubing is its free discharge. Its disadvantage, in addition to that noted above, is that if used for any length of time, when removed, it leaves a tubular passage of considerable calibre lined with granulations. This passage if long, as in large wounds, is often apt to close at two or more points in its course, thus penning up the slight discharge and producing retention and suppuration. The disadvantage of the capillary drainage is that it is not fitted to give exit to large amounts of fluid. Its advantage is that it leaves no such tubular passage, but that while giving us the means of introducing tubing for freer drainage, if at any time it is needed, it allows nearly complete healing, even while a few of its strands are still *in situ*. Especially is this of value in larger wounds with long drainage paths.

The method referred to is as follows: When the wound is ready to be closed, a fenestrated rubber drainage-tube and a bundle of horsehair of fifteen to thirty or more strands are both placed side by side in the wound. At the end of twenty-four or forty-eight hours the abundant oozing of bloody serum usually necessitates a redressing, but by this time the first abundant discharge has ceased. Accordingly at the first dressing after the operation I remove the rubber tube, leaving the horsehair in place. If the oozing will probably be small, I often even remove a large part of the horsehair. At the second dressing, say in three to six days, I remove all the horsehair or all but two or three strands. In doing so I always remove the hairs one or two at a time, as the nice adjustments of the surfaces is thus scarcely at all disturbed. At the third dressing, if all has gone well, the last horsehairs are removed and the capillary passage heals within twenty-four hours.

For joints or in other wounds where possible longer slight discharge may take place, the horsehair may be left for longer periods as judgment dictates.

I have used this method in amputation of the breast, often bringing tubing and horsehair out through a button-hole counter-opening in the axilla and treating it as described above. I have used it in a large number of amputations of the upper and lower extremities and in the removal of tumors of the neck and other parts of the body and find it to work admirably.

The same result may be attained by first using the tubing alone, and replacing it at the first redressing by the horsehair, but the pain and the mechanical disturbance of the wound are so much greater than the method above described that I have never found it to answer as well.

Of course for small wounds, only the horsehair is required.

While speaking especially of rubber tubing and horsehair, this method of combined drainage will answer equally well with any of the other materials mentioned, and it is to the method that I particularly design to call attention rather than to the material used.

DR. J. EWING MEARS said that the objection to the rubber tube is, as has been stated, that it leaves a canal lined with lymph, which may close at different points, preventing the escape of fluid. There is one method which had not been referred to. It consists in introducing a decalcified bone drainage-tube, within which has been placed a number of horsehairs. The hairs are removed one by one. This prevents the collapse of the tube, but does not overcome the objection to the presence of the tube in the wound.

He had frequently practised Dr. Keen's method in the St. Mary's Hospital, where it is in general use, and he knows that it works admirably in the deep wounds met with in hospital practice.

There are, of course, certain objections to the presence of the tubes in wounds, in that they interfere with the reparative processes and prevent union by the first intention. At the same time, however, the advantages gained can scarcely be counterbalanced.

DR. J. M. BARTON said that he had been in the habit of using, in the case of wounds where there are two openings, a rubber drainage-tube, inside of which is

placed a number of rubber threads. When ready to remove the larger tube, the small threads are held securely and the tube drawn off. When there is no counter-opening, it is always difficult to retain the tube in position, and when the tube is removed it is difficult to replace it. In order to facilitate the introduction of the tube under such circumstances, he had recently had the ordinary probe of the pocket-case modified. The sharp, triangular end of the probe has been blunted and a little spur placed at a short distance from its extremity. When inserted into one of the openings of the tube, this spur prevents its passage into the tube.

DR. O. H. ALLIS asked Dr. Keen whether he had ever used fine silk in place of horsehair?

DR. KEEN said that he had never used the silk, although of course it would, in many respects, answer as well as the horsehair. He thought that when a number of threads are made into a strand by twisting, as in the case of a silk thread, the capillary action is not as good as in the horsehair, and the strands are apt to mat together if the discharge be thick. If used at all, it should of course be kept in an antiseptic solution.

In the case of wounds with a single opening, he takes the requisite number of hairs and doubles them in the shape of a hairpin. After the loop is introduced through the external opening, the hairs have enough stiffness to permit of their being readily pushed to the bottom of the wound. Of course, in attempting to remove a portion of the mesh, all of it may be pulled out, but in such a case it is a simple matter to introduce a smaller mesh.

DR. MEARS asked if Dr. Keen had had any experience in the use of catgut threads in the drainage of deep wounds?

DR. KEEN replied that he had, but the hair is so much superior that he had used it almost exclusively. Catgut swells, and it may obstruct, instead of facilitating, the escape of the discharge. Horsehair does not undergo such a change, and is much more permanent.

DR. DE FORREST WILLARD had found the same objections to catgut. It also seems to hold the pus, and not carry it out. He thought that we are apt to leave the rubber tubes in too long, so that they act as setons. If the tube is removed gradually, healing may not occur as rapidly as the tube is removed, and accumulation of pus may take place behind it. In order to have free drainage after amputations, he inserts between each stitch a short piece of rubber tubing. These are removed at the first dressing. There is a caution to be given in regard to this plan in cases in which there are redundant skin flaps, and that is that there is danger of one of the tubes slipping out of sight.

DR. O. H. ALLIS remarked, in regard to capillary action, that a silk thread must have a more powerful action than horsehair; which could be proved by inserting a silk thread and a horsehair into a tumbler of water. The silk would take up the water more quickly than the horsehair. Two hairs, placed side by side, would have greater action than one, and three braided together would have still more powerful effect. I have had good reason to continue the use of single threads passed through the wound in different directions.

DR. MEARS asked the question, in regard to the use of catgut, because it has been claimed that great advantages have been derived from the use of tubes which are absorbable, such as the decalcified bone drainage-tubes. He thought, however, that the judgment of many surgeons is adverse to their use, because they often undergo absorption too rapidly. It is said that immersion in alcohol renders them more resisting.

DR. S. W. GROSS thought that Dr. Keen's remarks in regard to the use of horsehair are capable of a wide range of application. He had used decalcified bone, and he had been more disappointed with it than with anything else that he has tried in surgery. They absorb the fluids, become soft, and collapse. If soaked in alcohol, they become stiff, and are, to a certain extent, rendered unabsorbable. Some time ago, he removed from a man's axilla a number of caseous tubercular glands, and put in a decalcified bone drainage-tube, attaching it to the edges of the incision with catgut ligatures. Seven days later, when the dressing was removed, it was found that healing had taken place, and that the catgut ligatures and the tube had disappeared. Four months later, the man returned with an opening in the axilla, which was supposed by some to be due to some of the glands having been overlooked. He passed a pair of forceps into the opening, and drew out the bone drainage-tube, which had not undergone the slightest change. Looking up the literature of the subject, he found a case described in which, for the cure of hydrocele, the sac was incised antiseptically, and a decalcified bone-tube introduced. Fifteen months later, the tube was removed unchanged. It follows from this experience that no reliance can be placed on these tubes. He uses exclusively the red rubber drainage-tubes, which he considers better than the black.

He thought that horsehairs can be utilized to such an extent as to enable us to do away almost entirely with the use of rubber tubes. In large wounds hereafter, he should introduce a drainage-tube and a loop of horsehairs, and at the first dressing remove the large tube, allowing the hair to remain. The same thing can be done in the stump after amputation. A number of hairs may be put transversely, and a few be put between the stitches. When the rubber tube is used, he saw no necessity for leaving it after the first serous discharge has ceased; for where a case is being treated aseptically, pus, even if it should form, will be aseptic pus.

DR. PACKARD called attention to a question which had been asked in regard to

THE BEVELLED INCISION.

All have seen the large leather belts used in machinery. The ends of these are joined by a process termed scarfing, which consists in bevelling the two ends of the belt and bringing them in contact in such a way that the joining will not be thicker than the rest of the belt. He has measured some of these scarvets which were twenty inches long. This adds much to the strength of the joint. Some ten years ago, he was called to a patient who had fallen while carrying a piece of china, and cut the back of her hand from the knuckle to the wrist. The skin had been divided in a slanting direction, so that there was a large surface of partially divided skin. He brought the two surfaces together, and found that they could be brought in accurate approximation. The wound healed, and left scarcely a trace. This led him to think that such an incision could be made use of in surgical operations, and he decided to try it at the first

opportunity. The first case in which he employed it was in operating on a bursa over the patella. He made an oblique incision, although not nearly so much so as he now employs; and after the wound had healed, he could scarcely find the scar. In all those cases in which it is desirable to avoid a scar, this incision will be of service. It also facilitates healing, and, as all pressure made upon such an incision tends to close it the more, the air is excluded, and an antiseptic effect is obtained. After the operation for strangulated hernia, a truss can be applied much earlier than where the vertical incision is employed, for the irritation of the skin will not be so marked.

CHICAGO GYNECOLOGICAL SOCIETY.

Stated Meeting, December 19, 1884.

THE PRESIDENT, H. P. MERRIMAN, M.D., IN THE CHAIR.

DR. W. H. BYFORD read a paper entitled

A CASE OF MURAL PREGNANCY.

The history was obscure. The patient, who was twenty-eight years old, had been married seven years, and had one child, six years old. She thought that she became pregnant, for the second time, in February, 1883. In April, she became fatigued and had hemorrhages, which continued until May 9th—about four weeks. October 14th, a discharge of yellow fluid, about one gallon in quantity, occurred. A putrescent, sero-sanguineous discharge followed, continuing three months. January, 1884, a large, brownish mass, with very fetid odor, was expelled. After this event, menstruation occurred until July. In May she was quite large, and had bearing-down pains. She entered the hospital October 6, 1884. She was tapped October 18th, and about four quarts of thick, tenacious fluid, resembling the fluid of an ovarian cyst, was removed. This fluid coagulated, on the addition of nitric acid, and on boiling. Assisted by Dr. R. Filley, a microscopical examination was made, with negative results. The "Drysdale" cell was not found. Laparotomy was performed, and a fœtus with placenta was removed without hemorrhage or difficulty. In order to secure perfect drainage, it was considered best to remove the uterus. The operation was performed on October 30th. The patient did not react, but died within twenty-four hours. Prior to the operation the patient was extremely reduced by her protracted sufferings. Dr. Byford, in a similar case at the present time, would elect the vaginal operation. The specimens removed from the woman were exhibited as supporting the diagnosis of mural pregnancy.

This was the second case of mural pregnancy that had come under the reader's observation within a period of five years. In the first case reported to the Society the patient was in labor and moribund when Dr. Byford saw her. She had been in labor until exhausted. There was no difficulty in making a diagnosis. The head was low down in the pelvis, almost on the perineum. The os uteri was well-nigh inaccessible behind and above the symphysis. The body of the uterus, somewhat enlarged, could be felt in the lower and anterior part of the abdomen, attached to the tumor containing the fœtus. The fœtus could be felt through the abdominal walls, surrounded by a thick involucrum, apparently as thick as the uterine walls. Fœtal extremities could be distinguished. When dissected, the sac in which the fœtus was contained was found to contain a thick layer of muscular fibres. These fibres were directly continuous with those of the uterus. The tubes and ovaries lay on either side of the lower portion of the sac. The fecundated ovum had made its way down the tube, became lodged in a diverticulum in the uterine wall, and from this point of departure was gradually extruded into the cavity of the abdomen. The fœtus was thus developed within the uterus, though not within the uterine cavity. The resemblance to normal pregnancy is great, in the presentation and position of the fœtus, deep down in the pelvic cavity, behind the vagina. The head, in this case, was fixed by the concentric contraction of the uterine fibres by which it was surrounded, and could be easily outlined as it lay there covered by the posterior vaginal wall.

The specimen presented is much less perfect than the one described because of the numerous effects wrought upon it, during the great length of time it remained in the maternal body, and the mutilation consequent upon enucleation.

The treatment of these cases ought to be considered apart from that of extrauterine pregnancy at term. It is always a matter for special consideration, in connection with each case, as it presents itself, whether or no the removal of the fœtus, at term, in extrauterine gestation, should be attempted. The dangers of laparotomy are greatly increased by the inability to remove the placenta. The surface to which it is attached has no contractile power, so that the divided vessels are left patulous. If hemorrhage does not immediately prove fatal, the blood is a source of sepsis, that must almost certainly destroy the patient. Laparotomy would more likely prove successful if performed some days after the death of the child. In these cases of ectopic or interstitial uterine pregnancy the fœtus may be easily removed through the vagina. An incision made through the posterior vaginal wall would completely uncover the presenting part, and enable one to apply the forceps, or attack it with the perforator and crotchet, as in ordinary labor. After the removal of the fœtus the placenta should be allowed to separate spontaneously. Since writing this report, Dr. Byford has seen a case, reported in the *Annales de Gynecologie*, July, 1884, occurring in the practice of Mr. Matheson, of England, illustrative of the execution of this plan. The case was reported to the London Obstetrical Society under the title, "Extrauterine Pregnancy; the Extraction of a Living Fœtus through the Vagina." The child was slightly asphyxiated, but survived. A sponge, saturated with perchloride of iron, was introduced into the sac after removal of the placenta. The mother recovered. It would seem that the author did not suspect his case to be one of interstitial pregnancy. During the discussion that followed only one of those present expressed the opinion that it was of that variety. Mr. Griffith thought it was either interstitial pregnancy or one in which the fœtus was developed in one portion of a double uterus.

DR. EDWARD SAWYER thought that interstitial pregnancy meant the development of the ovum in the uterine portion of one of the tubes. In Dr. Byford's

case the uterine portions of the tubes were not involved. It reminded him of a case he had seen near Denver. In this case a secondary uterus, with muscular walls, had been developed, but as the tubes were not involved he did not feel justified in designating the case one of interstitial pregnancy.

Dr. D. T. Nelson said, with reference to the treatment of the placenta, that Dr. Byford's advice was that usually recommended in the text-books. The placenta should be left alone in those cases in which the walls of the secondary uterus were not muscular. He had seen a case, in the museum of the Chicago Medical College, in which no muscular fibre could be detected in the walls. When the walls of the adventitious uterus were muscular it was questionable whether or no the placenta should be left alone. If the placenta is removed, there is danger of hemorrhage; if the placenta remains, there is danger of sepsis. When there was reason to suppose that contractions of the adventitious uterus would check hemorrhage, he thought the placenta should be removed. He had had no experience in these cases.

Dr. E. C. Dudley said that women, in cases of extra-uterine pregnancy, in which the placenta has been allowed to remain, do not die of sepsis. He had seen two or three cases in which the sac had been united to the abdominal incision. Whenever evidence of sepsis occurred, the sac was washed out and the temperature immediately fell to the normal. The placenta, under these circumstances, is spontaneously eliminated in about three weeks. It required phenomenal powers of diagnosis to tell in the concrete case whether or no the sac had sufficient muscular fibres to prevent hemorrhage. The placenta should be permitted to remain within the sac.

Dr. J. H. Etheridge thought that if, on microscopical examination, it was found that the muscular fibres of the normal uterus were continuous with those of the adventitious uterus, the case was one of mural pregnancy. In cases of abdominal pregnancy, there was a line of demarcation between the normal and adventitious uterus.

Dr. A. Reeves Jackson thought, however, with Dr. Sawyer, that the results of the anatomical investigation did not support the author's diagnosis. The uterine portions of the tubes were not involved. So valuable a specimen deserved very close microscopical and macroscopical examination. It ought to be referred to a competent pathological anatomist.

Dr. John Bartlett thought the ovum had not passed through the tube, but had been developed in the broad ligament, beneath the peritoneum, and had, in this manner, derived muscular fibres from the uterus.

Dr. W. W. Jaggard referred to the fact that, next to ovarian pregnancy, interstitial pregnancy was of most infrequent occurrence. Up to the present time about thirty cases, in regard to which the diagnosis was positive, had been reported. Interstitial or mural pregnancy included other sites of development than the uterine portions of the tubes. Dr. Gilbert's case, reported in the *Boston Medical and Surgical Journal*, March 3, 1877, and referred to by Prof. Lusk in his treatise on *Midwifery*, was a case in point. The ovum in this case was developed in what seemed to be a bifurcation of the Fallopian tube. In Dr. Byford's case the tubo-uterine orifices were not involved. The sac was extrinsic to the uterine walls. It was probably a case of abdominal pregnancy, in which the ovum became attached to the posterior uterine wall, and derived muscular fibres from the locality. The fact that a continuity of muscular fibres from the normal uterus to the adventitious uterus might be ascertained upon microscopical examination, would prove nothing as to the nature of the pregnancy. Dr. Byford's case resembled that of Janvrin, in which the ovum lodged on the posterior uterine wall, and developed in this situation, involving the posterior wall in its sac. The specimen was worthy of more exact investigation, and should be placed in the hands of a competent pathological anatomist.

Dr. Sawyer said that abdominal pregnancy, with location of the ovum on the posterior uterine wall, is not at all improbable. He then referred to Bischoff's and Leopold's observations and experiments with relation to the "external wandering over of the egg." Beigel had ridiculed this idea. It was like a blind man introduced into a large empty room, with a thread in his hand, seeking to find and thread the eye of a needle located in some indefinite quarter of the room. Notwithstanding this sarcasm, the fact of the external wandering over of the egg was a matter of positive knowledge. The egg may pass from one ovary to the opposite Fallopian tube, through the abdominal cavity. He thought the specimen exhibited was one of abdominal pregnancy.

Dr. Dudley thought the fact of the external wandering over of the egg was not disputed at the present time. Playfair, in his treatise on *Midwifery*, gave a clear exposition of the subject.

Dr. Earle said that the fact of external wandering over of the egg was fully recognized twelve years ago.

Dr. Sawyer said the ovum in abdominal pregnancy might be attached to the posterior wall of the uterus, the mesentery, under surface of the liver, or to other viscera.

Dr. Nelson made the remark that in both of the cases cited by Dr. Byford, *deciduæ* had been cast off by the *uteri*.

Dr. Jackson said that Fränkel was of the opinion that the formation and extrusion of a decidua was a constant occurrence in extrauterine pregnancy. It was pathognomonic of the condition.

Dr. W. H. Byford was not surprised that certain members did not agree with him in his diagnosis. He thought that in the first case the fecundated ovum passed through the tube, but had found some diverticulum in the uterine cavity, and had passed into the posterior wall; had developed in this region, pushing the wall before it. Some of the reasons for this position were as follows: The muscular elements of the sac were directly continuous with the uterine muscle. He did not believe that such a muscular sac could develop adventitiously in the abdominal cavity. He had seen cases of abdominal pregnancy in which no muscular fibre could be detected in the sac. The head presentations, deep down in the pelvic cavity, in the direction of the resultant of the forces developed by uterine contractions, supported his view of the case. It is not necessary for the production of mural pregnancy that the tubes be involved. He thought there was much in the remarks of Dr. Nelson and Dr. Dudley. In cases

in which there was sufficient contractility, it was best to remove the placenta. Even under these circumstances, it was not absolutely necessary. There was no danger in allowing the placenta to remain. Finally, he was very positively of the belief that the two cases referred to in his paper were examples of mural pregnancy. The peritoneum was a boundary line between mural and abdominal or peritoneal pregnancies.

Dr. Sawyer asked the question, Is the peritoneum a boundary line of importance in the macroscopical or microscopical differential diagnosis between abdominal and mural pregnancies?

Dr. Jaggard, in reply, said that the peritoneum was no barrier. What was the peritoneum? Dr. Etheridge, in an article on "Chronic Adhesive Perimetritis," published in a recent number of the *Chicago Medical Journal and Examiner*, had ably sketched the anatomy of this membrane. It was developed out of connective tissue, according to Rindfleisch and other distinguished anatomists. It offered absolutely no barrier to the attachment of the ovum to the posterior uterine wall, and its development in this situation, with the derivation of muscular elements from the normal uterus.

On motion, Drs. Byford, Merriman, and Jaggard were appointed a committee to select a competent pathological anatomist, who did not belong to the Society, to examine the specimen and report at the next meeting.

NEW YORK SURGICAL SOCIETY.

Stated Meeting, Dec. 23, 1884.

The President, Robert F. Weir, M.D., in the Chair.

Dr. W. T. Bull presented a patient showing the result of

EXCISION OF THE CONDYLE AND NECK OF INFERIOR MAXILLA FOR ANKYLOSIS.

A boy of 14 had been perfectly well until four years ago, when he had an attack of otitis media of the right ear lasting about six months. During this time it was first noticed that he could not fully open his mouth, and this difficulty increased until about three years ago, at which time Dr. Bull began treatment, various apparatus being used forcibly to open the mouth but with only temporary improvement under ether. Twice the adhesions have been ruptured, and stretching by means of gags and plugs kept up for several weeks. On ceasing treatment the stiffness increased. The treatment was very painful.

On admission to the New York Hospital, Oct. 22, 1884, the boy was well nourished and robust in appearance. The jaws could be depressed only so far as to show an interval of a quarter inch between the middle incisors. The left temporo-maxillary articulation appeared normal. The right was the seat of thickening and induration of the tissues overlying it. These formed a swelling the size of an almond, which was not tender.

Oct. 23, 1884, the operation was performed. An incision one inch and a half long was made just below and parallel with the right zygomatic arch. A second vertical incision three-quarters of an inch long was made downward from the first at its posterior third. These were carried down until the condyle and eminentia articularis were exposed. The condyle was thickened, and the joint ossified, at least the only indication of its existence was a thin layer of cartilage a quarter inch long. The periosteum was pushed back, and the condyle and neck removed with chisel, gouge, and roughened forceps. This was a tedious procedure, owing to the depth and narrowness of the wound. The jaw was then forcibly depressed with a gag, rupturing some adhesions in the soft parts, and its motions were perfect. The wound was irrigated with 1 to 1000 solution of bichloride of mercury, and closed with catgut sutures save at the lower limit, where a small bone drain was inserted. A temporary dressing of bichloride gauze was firmly applied.

24th.—A.M., 99°. A dressing of iodoform gauze next the wound, over this peat and cotton, was applied. P.M., temperature 99.8°.

29th.—Pulse and temperature normal since last note. Dressing removed. Union complete save at site of tube, where a small ulcer remains. Tube had been almost wholly absorbed. Patient has no pain and opens his mouth freely, eating regular ward diet.

Nov. 5.—An ulcer size of split pea remains. Patient opens jaw so that middle incisors are one and one-sixteenth inch apart. No pain.

Dec. 23.—There is the same freedom of motion as before noted. The cicatrix is represented by a depression vertical in direction, of one-half inch in length.

COMPOUND FRACTURE OF INNOMINATE BONE; OPENING HIP-JOINT; RECOVERY WITH PERFECT USE OF LIMB.

Dr. W. T. Bull also presented a patient with this history.

Three years ago this man, a laborer, thirty years of age, was admitted to the Chambers Street Hospital half an hour after having fallen through a hatchway into the hold of a ship, a distance of twenty feet. He struck with right side against a pair of ice-tongs, the points of which made a wound below and behind the anterior superior spine of the ilium. The finger introduced into this found the muscles lacerated, the bone behind and below the anterior superior spine comminuted, and a fissure extending, it was thought, into the acetabulum, the capsule of the hip-joint was torn close to the acetabulum, and the cartilaginous head of the femur could be felt. There was profound shock. A few hours later the wound was enlarged, and several loose pieces of bone removed. They were all fragments of the outer surface of the ilium, the largest was three inches long by one and a quarter inch broad.

The wound was thoroughly irrigated with a five per cent. solution of carbolic acid, two large drainage-tubes were left in the wound, which was left open, and two other tubes were inserted through counter-openings, behind the trochanter and near the tuberosity of the ischium, one of the tubes leading to the site of the opening in the capsule. Compresses of two and a half per cent. carbolic acid were put over the hip, a weight and pulley extension applied—the tubes washed through four times a day with two and a half per cent.—and appropriate general treatment ordered.

From the third to the seventh day there was high traumatic fever, temperature 102½° at night, with delirium, diarrhœa, and prostration. The irrigations were made every two or three hours, and the discharge was

abundant but not decomposed. After this improvement was slow but steady, and without other complications than the formation of one or two pockets, which gave rise temporarily to fever. The extension was kept up for four weeks. The tubes were shortened from time to time, and the irrigations were made much less frequently. The man walked on crutches at the end of the third month, with considerable stiffness at the hip, and the wound was reduced to one sinus, through which several fragments of bone came away subsequently. At the end of the fourth month he had quite regained his strength, and could walk with but little stiffness. He resumed work after the end of six months—but the sinus did not close till several weeks later. He had had no further trouble from the injury, and thinks the functions of the right leg perfect. It is now three years since the injury, and I find the limb half an inch smaller in circumference at the upper part of the thigh, and one-quarter inch smaller at the lower third, than the left. The motions of the joint are free, except that of external rotation, but the hindrance is not sufficient to attract his attention. There is flattening of the soft parts between the anterior spine and the trochanter, and the brim of the pelvis for four or five inches behind the anterior superior spine is irregular in outline. The cicatrices are soft.

DR. GEORGE A. PETERS then read a paper entitled

CASES OF EXCISION OF SUPERIOR MAXILLA, WITH REMARKS.

(See next number of THE MEDICAL NEWS.)

DR. H. B. SANDS said that the main points of the paper were scarcely debatable, as the Society would doubtless endorse most of the opinions expressed by Dr. Peters. But, if he had not misunderstood the author of the paper, he had recommended

THE ADMINISTRATION OF ETHER BY THE RECTUM

as a safe and useful method. Dr. Sands had had no experience in this mode of producing anæsthesia, which had not impressed him favorably.

But, as many of the members of the Society had had such experience, he would like to inquire whether their verdict would sustain the position taken by Dr. Peters. Judging from what he had learned concerning etherization by the rectum, Dr. Sands had concluded that it was far from being a desirable procedure, as it was attended with risks which are difficult to avoid, and almost impossible to estimate. He had the privilege of witnessing the operation described in the paper; and, being only a spectator, he was perhaps able to observe better than those who were engaged in performing the operation the effect of the anæsthetic. It seemed to him that the ether was but little under the control of the administrator, and that, in spite of the precautions used, a very large accumulation took place in the intestine, with the effect of producing cyanosis and very deep anæsthesia for a period which made a bystander feel anxious with regard to the result.

Dr. Sands would hesitate from what he had observed in this case, even in operations of the kind mentioned in the paper, to adopt this method as a substitute for inhalation in the ordinary way. His own practice, when employing anæsthetics in the operation for excision of the superior maxilla, had usually been to avoid inducing profound insensibility in the later steps of the operation. By adopting this precaution, by operating without undue delay, and by causing the head to be inclined forward whenever hemorrhage was copious, he had always been able to prevent the entry of blood into the air-passages, without the necessity of plugging the trachea. Patients treated in this manner sometimes showed signs of pain, especially when the larger nerves were divided; but afterward they had no recollection of having suffered during the operation. Dr. Sands believed that in all surgical procedures accompanied with the risk of escape of blood into the larynx, deep anæsthesia should be avoided. Regarding the general administration of ether by the rectum as a substitute for the usual method by inhalation, he would like to know whether the advantages were not outweighed by the risks.

DR. W. T. BULL said that he had considerable experience with etherization by the rectum, the results of which he had already published. He had administered ether in this manner in seventeen cases, and had reached the conclusion that the method should not be practised, because in a large proportion of those cases the reaction which followed, on the part of the intestinal tract, was very considerable. In some cases there was diarrhœa, with bloody passages, and in others ordinary serous diarrhœa, and the diarrhœal discharges seemed to occur without very much reference to the apparent good general condition of the patient. In one case the diarrhœa continued for two or three days after the operation. Judging from his own experience, he was unable to call etherization by the rectum a safe procedure, and this conclusion had been confirmed by the occurrence of deaths, in different hospitals, from ether administered in this way, and when there was nothing in the nature of the operation which would have imperilled the life of the patient. In the operation in question, he should prefer to trust to the method mentioned by Dr. Sands, rather than resort to etherization by the rectum.

DR. L. A. STIMSON remarked that he had already presented to the Society an instrument devised for continuing etherization during the operation described by the author of the paper. The instrument consisted of a large tube, about the size of a No. 40 urethral catheter, surrounded at one end by a large sponge with a rubber coating, which, when passed into the pharynx, prevented the flow of blood in that direction while the patient breathed through the tube. He had successfully used this apparatus in two cases.

DR. PETERS said that his feeling concerning etherization by the rectum was such as had been stated by Dr. Sands, unless the method could be surrounded by safeguards in the administration which would deprive it somewhat of its dangerous element. The results in the two operations described in the paper, performed upon a single patient, were eminently satisfactory. The patient was profoundly anæsthetized, and the anæsthesia continued for some time, but he came out from under the influence of ether with less subsequent annoyance than usually follows the administration of this anæsthetic. The patient himself was so much pleased with the mode of administration that at the second operation he requested that the same method be employed as was adopted at the first operation, a point which, of course, went only for what it was worth. Like the administration of ether by any method, it was

important to conduct the procedure very carefully. From the experience with these cases, Dr. Peters stated that he should give this method further trial.

DR. BRIDDON had employed Nussbaum's method with much more pleasant results than any other he had employed. The method consists, first, in the administration of a full dose of morphine hypodermically, ten or fifteen minutes afterwards administering the anæsthetic, then making an incision into the trachea or larynx and introducing a tube with a funnel-shaped extremity, over the end of which is secured a piece of flannel, upon which chloroform can be dropped, using it in preference to ether. In the mean time the fauces are packed to prevent blood from entering the air-passages. The quantity of chloroform sufficient to maintain anæsthesia under these circumstances is exceedingly small; usually only a few drops being required. He had seen anæsthesia produced by the rectum in a number of cases by his friends, and he thought their experience was similar to that related by Dr. Bull, and that none of them would adopt the method at the present time.

THE PRESIDENT remarked that his own experience with rectal etherization was checked early by an unfortunate case in which death resulted. It was true that in that particular case, which had been published, some errors in the mode of administration were made. Since then he had administered ether in this manner four times; in two cases the method worked satisfactorily, and in the other two cases there was some diarrhœa with dysenteric stools. He had reached substantially the conclusions already expressed by other members, and it was, to his mind, a method attended with considerable risk; too great a risk to be lightly resorted to. He thought that the opinions already expressed had been confirmed by reports from Philadelphia and Boston, and also in the English journals. The method of managing the anæsthesia mentioned by Dr. Sands had suited him best in the operation of extirpation of the upper jaw.

DR. L. A. STIMSON presented a

SPECIMEN FROM A CASE OF OVARIOTOMY,

with the following history: A patient, 43 years of age, in good health, a widow, the mother of one son eighteen years of age, first noticed a tumor in the left iliac fossa five years ago. It steadily increased in size, and she finally sought relief, by operation, from the distress occasioned by the weight and pressure of the tumor. There had been no disturbance of the menstrual function. Dr. Stimson operated on the 17th of December, by making an incision a little to the left of the median line, midway between the umbilicus and pubes. On account of the thickness of the abdominal parietes the incision ultimately reached four inches in length. When the peritoneum was exposed it was divided with scissors to the extent of about one inch. A trocar was then inserted into the tumor; two and a half gallons of rather thick, opaque, brownish-gray liquid were withdrawn. The tumor was grasped with the volsella forceps, drawn out through the incision, and it was then ascertained that it had no pedicle, but had developed between the walls of the broad ligament, and was continuous with the left side of the uterus. The uterus was drawn up into the opening, an incision made into the posterior wall of the sac, and an attempt made to enucleate the sac. After this had been carried far enough to make it probable that enucleation could be completed, a stout catgut ligature was placed, by transfixion, about that portion of the mass which corresponded to the left Fallopian tube, and the upper portion of the sac was then cut away; enucleation of the remainder was rapidly completed. The portion of the sac adjoining the uterus was trimmed down and united along the sides of the uterus with a continuous catgut suture; the raw surface of the uterus thus covered in was sprinkled with iodoform. The walls of the pouch left after enucleation were drawn up into the abdominal wound and fixed with sutures to the skin. A rubber drainage-tube was passed into Douglas's pouch, a bone drain into the lower angle of the wound, and a second rubber drain into the pouch. The antiseptic precautions observed were purification of the hands and instruments, bichloride irrigations during the operation, and the use of sponges dipped in a warm carbolic solution after the peritoneal cavity had been opened. Two of the drainage-tubes have been removed, the bone one on the second and the first rubber one on the third day; the drain which entered the pouch of enucleation is still retained, although there is but scant discharge from it. Since the operation the patient has done perfectly well. The sac of the tumor had a rather thick wall, with a rough and granular inner surface. In the portion of the sac cut off, the line of incision passed through a number of small cysts, which occupied the wall of the sac and which contained a brown and rather viscid liquid.

In response to a question asked by the President, DR. STIMSON said he made the incision a little to the left of the median line for two reasons: first, he wished the parietal wound to include the muscular layer; and, second, because the tumor was situated upon the left side, and a lateral incision, he thought, would somewhat facilitate the operation upon the pedicle.

DR. BRIDDON presented a specimen of

DISLOCATION OF THE THUMB FORWARD,

which occurred nineteen years before the death of the patient. It was referred to a committee, consisting of Drs. Briddon and Stimson, for examination and subsequent report.

LAPARO-HYSTERECTOMY FOR UTERINE FIBROIDS.

DR. WEIR showed a specimen of uterine mural fibroids weighing eleven and a half pounds, which he removed by abdominal section at the New York Hospital, November 21, 1884, from a single woman, 45 years of age, who was much exsanguinated by hemorrhage of five years' duration. The operation was conducted in a room filled with carbolic spray, though none was directed upon the seat of operation. The incision required was nearly eight inches long, and just permitted the emergence of the tumor, which was irregular in shape; being, in fact, trilobed. The broad ligament, with the ovaries, was tied off by silken ligature, and then divided down to the neck of the uterus. Thornton's clamp or écraseur was temporarily passed around the mass to make a groove for the elastic ligature, which was then tied tightly and the parts above removed. About two inches of the cervix were left. This stump was very movable, and could easily be applied to the

lower angle of the wound. It was secured there by a long needle, which traversed it and rested with its free ends on each side of the abdominal wound. The parietal peritoneum was sewn about the pedicle; first to the skin, subsequently to the peritoneum of the pedicle, so as to shut it off from the general peritoneal cavity. The remaining portion of the wound was closed as usual, the peritoneal edges being sewn, in addition, by a continuous catgut suture. The pedicle was dusted with iodoform, and peat bags applied to keep the parts as dry as possible. The patient did well for three days, when elevation of the temperature coming on, 103° F., with distention of the upper part of the abdomen, a rubber coil was applied to the belly. The next day, repeated bloody evacuations from the bowels took place, which continued with normal temperature until November 27, when she died. The autopsy showed no inflammatory action in the abdominal cavity, nor in the abdominal walls. Micrococci were found in the kidneys, which were in a condition of chronic interstitial nephritis. The quantity of urine passed subsequent to the operation was satisfactory. In addition to the uterus removed, specimens showing the line of union of the wound and the condition of the stump were exhibited.

Dr. Hutchison inquired concerning the usual behavior of elastic ligatures when left in the abdominal cavity.

Dr. Lange said it seemed that in most cases the rubber ligatures became encysted when left in the abdominal cavity, and gave no subsequent trouble. In his last case, however, about eight weeks after the operation the patient began to have a discharge, and the ligature with the stump of the uterus came away through the vagina. At that time the patient had passed from under his observation. Subsequently he saw the patient; and she was in a very comfortable condition, although there was still some discharge from the vagina, but he was unable to detect the opening through which the ligature and the stump of the uterus had escaped. It seemed to him that they must have passed through the cervical canal. He might also mention that the ligature was applied very deep, immediately above the fornix of the vagina, and perhaps this immediate proximity to the vagina had something to do with the discharge of the ligature through the cervical canal.

Dr. W. T. Bull had had a similar experience with regard to the silk ligature after removal of the uterus, with the ovaries, for a large subperitoneal uterine fibroid. Six months after the operation the patient returned, and said that a discharge from the vagina had persisted since about two months after the operation, and on making a vaginal examination he saw a piece of silk, hanging from the os, which he seized and withdrew, and found to be the entire ligature.

In cases in which the uterus is made the pedicle, the fact of the liability of the escape of the ligature and the stump through the vagina, had been used as an argument for the external treatment of the stump; at all events, it was one of the features of the intraperitoneal treatment which was undesirable.

Dr. Lange remarked that it was difficult to see how one could secure a deep situated pedicle and treat the stump with the ligature through an external opening.

Dr. Briddon thought that no definite rule could be established, but that each case should be decided by itself, and chiefly by the length of the pedicle. He thought that the manner of escape was easily explained by the results of experiments which had already been reported in Sir Spencer Wells's book, namely, that the sutures shut off entrance to the peritoneal cavity, adhesions between the peritoneal surfaces occurred within a few hours, and if ulceration went on, the more direct way of escape was into the vaginal cavity.

Dr. W. S. Halsted exhibited

A NEW NEEDLE HOLDER,

for holding needles flattened from side to side instead of antero-posteriorly. The especial advantages which it possessed were, that it could be taken apart readily and cleaned, and it did not allow the needle to rotate and slip.

CORRESPONDENCE.

INTERNAL MEDICINE IN THE VIENNA HOSPITALS.

To the Editor of The Medical News.

Sir: Certain features render Vienna, of all places, perhaps, the most attractive to physicians seeking experience and information in the various branches of medical science. They are, namely:

1. That into or about one great hospital is gathered by far the larger portion of the vast clinical material of the city.

2. That the patients here are thoroughly utilized for purposes of instruction, suffering, meanwhile, no detriment themselves thereby.

3. That the instruction given is of the very best practical kind.

That this is no overestimate of the advantages to be found here is proved by the presence of a very large number of foreign physicians from almost every land. Of these, very many are subjects of the South American States, Great Britain, and Germany; but by far the greater portion comes from the United States of America, which country contributes probably over one hundred physicians, including about ten women.

The method of instruction is by clinical and didactic lectures given by the many professors, and by the University courses and private courses given by them, and the very numerous "docents." The number of these courses advertised on the bulletin boards of the hospital is indeed so great as to be absolutely bewildering to a new-comer.

The University year is divided into two terms or "semesters," in which time are held the regular lectures, clinics, and courses; and, entirely independent of them, the private courses. During the holidays many of the latter still continue, so that plenty of instruction can be procured throughout the entire year. The duration of each private course is from four to six weeks. The University courses continue the entire term.

At 7 A.M. throughout the summer semester, and at 8 A.M. during the winter, begin the two clinical lectures on internal medicine by Professors Bamberger and Nothnagel. That of Nothnagel is the one more sought after by the foreign physicians.

The oftener one hears him the more does one admire

the distinguished clinician's evident mastery of his subject, and great ability as a lecturer.

The case having been brought before the class, one of the course students is called upon to examine it. He is requested first to interrogate the patient as to the nature of his disease. As the questions asked are frequently not much to the point, the lecturer supplements them by questions of his own, and then requests the assistant to read the clinical history. He next reiterates any matters of importance discovered from the history or by the questioning, and asks the examining student what different diseases could be indicated by the existing symptoms. Now, the direct examination of the case is commenced. No point is omitted. The student is asked to notice and describe the color of the face and mucous membranes; the condition of the pupils, of vision, and of hearing; the state of the sensorium; the condition of the glands of the neck, and the presence of any visible pulsation in the vessels there; the inclination of the clavicles; the shape of the thorax and abdomen, and all characteristics and peculiarities to be found there; the amount of bony, muscular, and adipose development; the position of the body, etc.

Nothnagel evidently lays great stress upon inspection, and it is often surprising what valuable points of diagnosis he develops by it. He next gives the contents of the thorax and abdomen a most thorough examination by means of the remaining physical methods. It is worthy of note that he uses a percussion hammer and plexímeter. (The same is true, by the way, of Frerichs, Guttmann, and others in Berlin.) The frequency of the respiration and of the pulse is always counted in the presence of the class, and the examining student required to describe the character of the latter. The temperature is very often measured in the lecture-room and the urine always examined there. In cases of suspected pleuritic effusion, the "puncture test," by means of the hypodermic syringe, is also conducted before the students. Nothnagel depends almost entirely upon the reaction with potassium ferrocyanide and acetic acid in testing for albuminuria, beliving it to be delicate, reliable, and undoubtedly more convenient than that with nitric acid and heat. The record of the temperature for several days before is announced, and the sputum, if existing, is exhibited, and the result of any previous search for tubercle bacilli reported.

Having finished the examination, he enters upon the diagnosis of the case. All possible diseases capable of giving rise to any of the prominent existing symptoms are taken into consideration, and are one by one excluded, until the final diagnosis is attained. The lecture has been meanwhile delivered largely *at* the examining student, and interspersed with numerous digressions into the realms of medical diagnosis, and with frequent questions asked of the student involving his knowledge of anatomy, physiology, materia medica, and chemistry; with all which he is presumably familiar, having usually already passed examinations in them. Unfortunately, however, the German students share the fallibility of other men, and sometimes return surprising answers. One of them recently made the reply that calomel was a vegetable. Another, that potassium iodide was the form in which iodine was usually used as a counter-irritant; and that the prominent symptom of cantharis poisoning consisted in muscular cramps. Another, that during sudden anæmia of the surface of the body the blood is collected in the heart.

The digressions already referred to form one of the most interesting and instructive features of Nothnagel's clinics. For example, while lecturing on pneumonia, he may give a complete review of the varieties of cough, with their diagnostic indications. Or he may sometimes speak at length of sputum, chill, urine, etc.

Next in order the lecturer talks of the prognosis, first asking the opinion of the examining student; and finally of the therapeutics, although comparatively little is said on the subject.

He speaks rapidly and with vivacity, and holds the full attention of the class, although he often spends from one to two hours over a case. He delivers his lectures in a chiefly systematic course, being enabled to do this by the large amount of clinical material at his command.

Bamberger calls upon two students for each case; one to examine the lung, the other the heart and abdominal organs. He sits while speaking, and seems to address himself principally to the *bed*, inasmuch as he scarcely ever glances at either the patient, the examining students, or the class. His voice is very low and quiet, and it is almost impossible for a foreigner to understand him, unless seated very near the front. His method is just as thorough as Nothnagel's, but perhaps not so well calculated to instruct. He reads to the class the entire recorded clinical history, with the physical signs as already found; then, stating at once the diagnosis, he discusses thoroughly the usual symptoms and course of the disease. A physical examination of the patient is then made by the students, who, while conducting it, are questioned by the professor as to its results. Bamberger next carefully investigates the case himself, and then considers the prognosis and therapeutics.

As further distinguishing his clinical methods from those of Nothnagel, can be noted that neither plexímeter nor percussion hammer are employed; that all normal or abnormal areas of percussion dulness are invariably mapped out on the body of the patient with the aniline pencil; that the femoral artery is always auscultcd in any case of suspected valvular disease of the heart; that the urine is examined for albumen by the heat and nitric acid reaction only; and, further, that whereas the symptoms and course of the disease *in general* are very thoroughly discussed, its differential diagnosis in the case before the class is not so clearly elucidated.

But what to the foreign physician is of far greater value than the lectures of the professors are the *private courses*, of which the favorite ones, on Internal Medicine, are those given by Drs. Toelg and Von Jaksch, the first assistants respectively of Bamberger and Nothnagel. The members of these courses have the opportunity of personally studying in the wards many most interesting cases. A patient is assigned to two physicians who carefully examine him, and form their own diagnosis of the disease. The assistant then thoroughly discusses the case, and approves or criticises the diagnosis. They endeavor to teach the newest and best methods of medical diagnosis, including also the examination of sputum for tubercle bacilli, of the blood for any microscopical changes in it, and of the urine for any chemical or microscopical alterations.

Toelg's method of demonstration is wonderfully clear;

that of Von Jaksch thoroughly scientific. With the former, the physician studies his own case only; with the latter, he has the opportunity of examining those belonging to the other members of the class, and of hearing the docent's discussion of them. As these courses are in great demand, and are limited to eight or ten men, it is often necessary to make application months in advance.

The hospital offers numerous other courses in this branch of medical science, some excellent; as, for example, those of Dr. Neusser, Dr. Heitler, and Prof. Schrötter. Schrötter was an assistant of Skoda, and, it is said, follows his methods of demonstration. He shows clearly how the sounds of percussion and auscultation can be produced artificially, and then exhibits cases to illustrate them.

Any one often in the wards for Internal Medicine will notice many interesting characteristics of diseases, and their treatment there. The first and most striking of these is the dreadful prevalence of tuberculosis. So common is it, indeed, that it goes by the name of "*Morbus Viennensis*" as frequently as by any other. The possibility of its causing or complicating other diseases must be always considered here. Primary pleurisy in the Vienna hospital is comparatively so rare that a case of it was recently exhibited as almost a curiosity. Unfortunately for the patient, the effusion obstinately resisted treatment, and soon evident signs of infiltration of the lung of the other side appeared, thus establishing the disease as probably in this case, too, a secondary affection. In the wards of both Bamberger and Nothnagel the finding of tubercle bacilli is considered proof positive of the existence of tuberculosis. Nothnagel institutes an investigation of the sputum in all suspected cases. He insists, however, that a single examination, in case no bacilli are found, shall not be considered decisive, but that it shall be repeated many times. If, after numerous examinations, none can be discovered, he maintains that the presence of tuberculosis is certainly exceedingly improbable. These conclusions are the result of the careful study of the sputum of hundreds of patients.

As common as is tuberculosis, almost so rare appears to be typhoid fever, of which comparatively few cases are to be found in the hospital. It was formerly as prevalent in Vienna as in other localities; but on the introduction, in 1873, of the present water supply, coming from the Styrian Alps, a notable decrease in the frequency of the disease took place.

Noticeable also is the largely expectant plan of treatment followed in many diseases. Cases of pleurisy and pneumonia receive usually a purely symptomatic treatment. In impending heart-failure, in the latter disorder, dependence is placed on large doses of alcoholic stimulants. The employment of diuretics or purgatives in pleuritic effusion is almost entirely discarded, and the fluid either trusted to nature, or, when necessary, aspirated. Acute Bright's disease and typhoid fever are also treated purely expectantly. Cold applications are made in those cases of inflammation in which hot would generally be employed in America. The hypodermic syringe is very freely used as a means of diagnosis of the presence and nature of fluid contained in the pleural or abdominal cavity.

Neither cod-liver oil nor iron is given in phthisis or other diseases when there is accompanying fever. The temperature is often recorded every two hours in cases in which it is likely to rise above the normal. A daily record of the quantity of urine passed and its specific gravity, and of the number and character of the stools, is noted on the chart above each bed. The cold bath treatment of fever is not much employed; but as an antipyretic, quinine is used in the wards of Bamberger, and in those of Nothnagel is at present given *thallin*, a most valuable agent, whose properties were recently described by Von Jaksch, before the Wiener K. K. Gesellschaft für Aerzte. In diabetes mellitus a strictly non-amylaceous diet is not adhered to, and no reliance is placed on medication. If the patient can be sent to Carlsbad, strong hopes are entertained of a cure, or of great amelioration of all the symptoms. Catarrhal icterus is generally treated with Carlsbad water. The doses of morphia are usually quite small, about one-tenth of a grain being the amount given hypodermically. The prognosis of the disease is always spoken in Latin in the presence of the patient, and death called "*Exodus lethalis.*" Latin, indeed, is very commonly used whenever it is desired that the patient be kept in ignorance of the remarks made.

Closely connected in many branches with the subject in hand, is that of the diseases of children. These, although well taught, do not offer so many opportunities for study as could be desired. The two principal clinics are those held by Prof. Monti in the Polyclinic, and by Prof. Wiederhofer in the St. Ann's Children's Hospital, both institutions situated quite near the general hospital. Monti sits at a table on which the child is placed, and around which the class gather. After eliciting the symptoms, by a careful questioning of the mother, he examines the patient, and then discusses fully the nature and differential diagnosis of the disease, and with particular care the therapeutics. The prescriptions to be employed are written upon a black-board provided for the purpose. The child is then taken about among the students for examination by them. The latter portion of the hour is devoted to a systematic lecture, continued from day to day, upon some selected branch of children's diseases. Much can be learned at this clinic, although no great opportunity is given for personal examination of the cases, as the course is largely attended, and but few patients exhibited daily.

Wiederhofer's clinic is conducted very similarly, except that no systematic lecture is delivered. It has the advantage that many house-patients are shown, as well as those from the ambulatorium. The lecturer states the diagnosis as soon as the child is brought in, and says but little on the subject. He then examines the case, and discusses the symptoms and treatment in an unsystematic and informal, but very interesting manner. An opportunity is given for personal examination of the patient. After the lecture, the class accompany the professor in his visit through the wards. The privilege of attending the very large ambulatorium of the hospital can often be obtained. Here frequently as many as one hundred children can be seen in the course of the morning. Wiederhofer's assistant, Dr. Frühwald, often gives excellent courses. Very good courses are also held by Dr. Fürth in the Polyclinic, and by others elsewhere.

It is, of course, of the greatest practical benefit to a

physician to be able to compare the diagnosis made during the life of the patient with the actual condition of the organs as seen on the post-mortem table. This can be done here to wonderful advantage, and microscopic pathological anatomy studied with great profit.

There is in the general hospital a death rate of about three thousand patients yearly, and on all of these the pathologists have the right to make post-mortem examinations. In point of fact, from eighteen hundred to two thousand such examinations are made, beside the autopsies of the criminal, accident, and similar cases of the city, which are also conducted in the hospital. Autopsies can be witnessed during almost the entire morning, and in the afternoon an excellent private course, limited to ten or twelve members, on the making of post-mortem examinations and the recognition of fresh pathological specimens, is held by Dr. Zeman, the assistant to Kundrat, the professor of pathology. In this there is such a wealth of material at hand, that the question is not what can be found interesting to the class, but what "will keep until to morrow."

During the first half of the course, Zeman exhibits and explains pathological specimens, and usually during the latter portion the members of the class make their own diagnosis of specimens given them. Throughout the whole course they have opportunities to perform autopsies under the direction of the docent. His method of making autopsies is rapid, complete, and very systematic, and the student's eyes thoroughly trained to notice even slight pathological changes. Those desiring it can attend systematic lectures on pathological anatomy by Prof. Kundrat, and on experimental pathology by Prof. Stricker. There is also a large museum of alcoholic specimens.

Good opportunities are offered for the study of pathological histology, although this is not so well taught as in Heidelberg or Strassburg. At the Rudolph's Hospital, which is unfortunately a long distance from the general hospital, Dr. Weichselbaum gives excellent courses on both macroscopic and microscopic pathological anatomy.

J. P. CROZER GRIFFITH, M.D.

VIENNA, Dec. 24, 1884.

COCAINE IN DYSMENORRHŒA.

To the Editor of THE MEDICAL NEWS.

SIR: Having employed the new anæsthetic, cocaine, with the happiest results, in a case of dysmenorrhœa, I thought it might be of interest to publish the facts.

My patient has suffered for years from painful menstruation, accompanying a retroflexion of the uterus, complicated with adhesions. The deformity of the uterus has been rectified by treatment, but the pain during the menstrual period is still as agonizing as ever. The most acute and intolerable anguish is felt in the left inguinal region, and is accompanied by a wind colic that causes the sufferer to writhe in agony. Nausea and vomiting add to her distress, and she seems at times ready to go out of her mind with suffering.

While still hoping to effect a permanent cure of this condition by appropriate treatment, temporary relief by the administration of morphia is all that I have hitherto been able to afford her; at the same time, that drug produces such disagreeable effects, that the remedy is only not quite so bad as the disease. It excites the nervous system, banishing sleep, it adds to the nausea, increases the prostration, destroys the appetite, and fails to keep off the wind colic. But on the last occasion, instead of morphia, I used cocaine, injecting subcutaneously over the left ovary, at first three, increased afterwards to five minims of a four per cent. solution. Almost immediately after each injection the pain in the inguinal region ceased to be felt, the nausea and wind colic were relieved, and, instead of nervous excitement and wakefulness, a soothing effect inclining to sleep was experienced. Five minims of a four per cent. solution were sufficient to afford complete relief for five or six hours, and comparative immunity for a much longer period.

While, however, the drug acted thus admirably, both locally and generally, it had no effect, apparently, on the bearing-down pains, and pain in the back, but only upon the local pain in the neighborhood of the spot where it was injected. It was also noticed, that, while it relieved the nausea and vomiting of a reflex origin, it sometimes caused slight nausea itself, but this was only temporary. No other unpleasant effect was experienced, if we except a slightly bitter taste imparted to the tongue.

If cocaine can thus be made to supersede morphia in such cases, it will certainly prove an inestimable boon to many an unfortunate sufferer. And if it is able to relieve that excruciating intestinal pain usually called wind colic, which in so many cases is sure to follow the slightest surgical interference with the uterus, this of itself will be no mean trophy added to its many wonderful triumphs over human suffering.

JOHN FORREST, M.D.

CHARLESTON, S. C.

NEW INVENTIONS.

A NEW EVACUATOR

FOR THE REMOVAL OF CALCULOUS DÉBRIS FROM THE BLADDER AFTER LITHOTRITY.[1]

BY H. O. WALKER, M.D.,

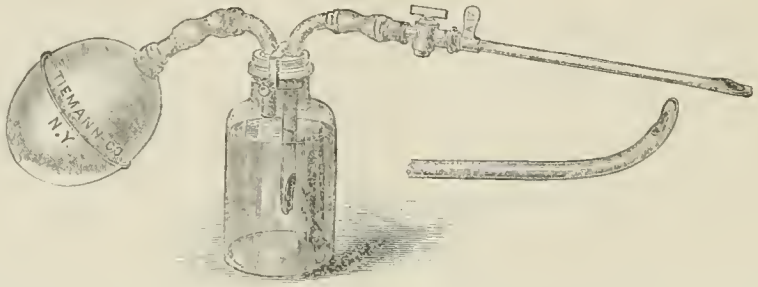
PROFESSOR OF GENITO-URINARY DISEASES, ORTHOPÆDIC SURGERY AND CLINICAL SURGERY, IN THE DETROIT MEDICAL COLLEGE, AND SURGEON TO HARPER HOSPITAL, DETROIT, MICH., ETC.

THE instrument consists of a six-ounce wide-mouthed glass bottle, fitted with a rubber stopper having two openings through it for the introduction of two metal tubes, one short, extending down about half an inch below the stopper, and the other long, extending to within one inch of the bottom of the bottle, with an oval (side) opening. These are held in place by a steel bar or flange over the stopper, and fastened by a screw.

The metal tubes are curved at their upper extremities, both having for a medium of connection a short piece of rubber tubing. To the short one is attached a rubber bulb, and to the long one the evacuating-tube, with stopcock and bayonet connections. The evacuating-tubes vary in size, with either curved or straight extremity. No. 26 F. is the one best adapted to general use, and less liable to do injury to the deep urethra. When in use the bottle is to be filled with warm anti-

[1] Exhibited before the Michigan State Medical Society, June 11, 1884.

septic water just to clear the opening of the short tube. After the introduction of the evacuating-tube into the bladder, it will be well, before making the connection with the long tube, to exclude the air. This can be done by forcing water into it by a slight pressure upon the bulb, and then closing the stopcock. Everything being in readiness, the connection is made and the stopcock opened and gentle pressure made upon the bulb, so as to force out from the bottle about an ounce and a half of water, when by a sudden relief of pressure



upon the bulb a return current takes place bringing with it broken calculus. The repetition of this manœuvre is kept up until the operation is completed. Experiments which I have made with it, both in a glass bottle and a soft rubber bag, satisfy me as to the ease and rapidity of its action. Another important feature of its working is that no fragments pass back into the bladder after they have once fallen into the bottle. It is entirely under the control of the operator, and does not require an assistant to work the bulb.

I am indebted to Dr. D. C. Wade, of Holly, Mich., for suggestions, and to Mr. Stohlmann, of Tiemann & Co., New York, for the care which he has manifested in the manufacture of the instrument.

33 Lafayette Ave., Detroit, Mich.

NEWS ITEMS.

NEW YORK.

(*From our Special Correspondent.*)

Dr. Rudolph Tauszky, who has figured in the courts for some time past as an "expert" in insanity cases, tried to kill his wife, and afterwards fired a ball at his own head, which he wounded slightly. He is now at the Presbyterian Hospital, and the "penny dreadfuls" are advancing all sorts of theories. No one, however, disputes the fact that he is insane.

The Dispensary advantages in this city are so extensive that the poorer and sometimes even the middle classes are enabled to get good medical and surgical advice without pay. Since the two institutions for advanced medical learning have been established, there is not enough clinical material "to go around." It is now no common matter to find "interesting cases" hiring themselves out at rentals ranging anywhere from twenty-five cents to one or two dollars per lecture, and if this thing goes on the possessor of a well-marked case —say, for example, of lupus—may regard his "face as his fortune."

Civil Service Reform.—So far as the workings of Civil Service Reform are concerned in this city, there might be an improvement. It is to be regretted that so much red tape entangles them, and that applicants must wait so long before coming up for examination. The fault is not with the medical examiners, but with the other officials.

The Brooklyn Board of Health has recently done good work and every precaution has been taken by Dr. Raymond and his assistants to guard against the approach of cholera.

Hermaphrodite Show.—There is an hermaphrodite who exhibits herself (?) in a down-town street, her chief patrons being brokers and fast men about town. She has been facetiously named "Madame Duplex," and is coining money as the result of the prurient curiosity of her many visitors.

The English Cholera Commission.—Doctors Klein and Gibbes have completed their investigations, and have submitted a short preliminary report. They state that Koch's comma-bacilli are not peculiar to cholera, but occur in other intestinal diseases; that these bacilli do not behave in any way differently from other putrefactive organisms; and that inoculations of animals with recent and old cultivations of comma-bacilli, as well as with cholera dejecta, produce no effect.—*Med. Times and Gazette*, December 13, 1884.

Cholecystotomy.—We learn that Dr. Charles J. Parkes performed cholecystotomy, on January 19th, on a female, aged 35, who suffered from enlargement of an uncertain nature in the region of the gall-bladder, which, owing to the fact that she had passed gall-stones, led to the belief that it was due to impacted gall-stones. An exploratory incision was make under strict antiseptic precautions, the gall-bladder was penetrated, emptied of its contents, and stitched to the edges of the wound. No gall-stones were found, but the bladder was distended with clear mucus. The day following the operation, the case was doing well.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM DECEMBER 30, 1884, TO JANUARY 5, 1885.

Girard, A. C., *Captain and Assistant Surgeon.*—Ordered from Department of Missouri to Department of the East.—*S. O. 304, A. G. O.*, December 29, 1884.

Appel, A. H., *Captain and Assistant Surgeon.*—Granted leave of absence for one month, to take effect on or about January 7, 1885 (Madison Barracks, New York).—*S. O. 268, Department of the East*, December 31, 1884.

Ewing, Charles B., *First Lieutenant and Assistant Surgeon* (Fort Stanton, New Mexico).—Granted leave of absence for two months.—*S. O. 304, A. G. O.*, December 29, 1884.

THE MEDICAL NEWS.

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ORIGINAL LECTURES.

THE METHODS TO BE PURSUED IN THE EXAMINATION OF PATIENTS SUFFERING WITH ABDOMINAL GROWTHS.

A Clinical Lecture delivered at the Jefferson Medical College Hospital.

BY J. EWING MEARS, M.D.,

LECTURER ON GYNECOLOGY IN THE JEFFERSON MEDICAL COLLEGE.

(Reported by W. H. Morrison, M.D.)

GENTLEMEN: The presence of this patient to-day affords me the opportunity of speaking to you with regard to the methods to be pursued in the examination of patients suffering from abdominal growths. Having first obtained the history, the patient is to be prepared for the examination by adopting a dress which would be suitable to be worn in bed. This implies the removal of all constriction from the waist and a perfect freedom of exposure of the surface of the abdomen. Having the patient prepared in this way and placed on her back on the table, the first step in the examination is inspection.

Inspection: The surface of the abdomen is inspected in order to ascertain whether it is uniform in shape. Its contour is observed and any enlargements or projections are to be noted. In practising inspection we should note not only any irregularities of the surface, but also the condition of the integument and any marks which may be found in the integument. For instance, your attention is called to a line which frequently exists between the umbilicus and the pubes. Formerly this line, which has a brownish color, was regarded as diagnostic of pregnancy, it being usually found, or almost as a rule, in women who are pregnant. This line is also observed in the patient before you and I have seen it in a number of cases of abdominal tumors. It is, therefore, not pathognomonic of pregnancy, but it also exists in other cases of enlargement of the abdomen. This line is due to a pigmentary deposit, and, so far as I can recollect, I have never seen any satisfactory explanation why it should exist. In a recent case of ovariotomy not only did this line exist prominently between the umbilicus and the pubes, but brownish spots were also found on different parts of the body, face, chest, and right side of the surface of the abdomen and on the lower extremities. In this case the patient stated that the brown line and spots appeared after the development of the growth. Further, after pregnancy to full term has occurred, the surface of the abdomen may be marked by cicatrices, which indicate undue stretching of the integument. I call attention to this point, since it has happened in cases which have been presented at the clinic, that pregnancy has occurred in unmarried females and the history of the case has been entirely opposed to any such condition.

Having learned all that we can from inspection, the next step in the examination is palpation.

Palpation: By palpation we mean pressure with one, two, or three fingers upon the abdomen, carrying this, if necessary, to some depth. In order to facilitate this manipulation, it is desirable that the patient should be directed to inspire and then make a forcible expiration. By this means the diaphragm is drawn up and the walls of the abdomen are relaxed and deep palpation can then be made. By means of palpation we ascertain whether the cavity of the abdomen or the cavity of the pelvis is occupied by a growth, and, further, whether the growth is hard, soft, or elastic.

Percussion: The next step is to percuss the abdomen. Percussion is familiar to you all as one of the methods employed in the examination of the thoracic cavity. Beginning in the median line, we percuss downward from the ensiform cartilage to the umbilicus and from the umbilicus to the pubes. The patient is then turned on her left side and percussion made over the right side of the abdomen and the right lumbar region. She is afterwards turned on the right side and the left side percussed in a similar way. Percussion gives us an idea in regard to the character of any growth in the cavity of the abdomen. The percussion note obtained over the intestine is resonant, or even more than resonant, tympanitic in character. Over a solid tumor the percussion note would be dull or flat. Over a cyst containing fluid it would also be flat or dull. By percussion, therefore, we determine whether the abdominal cavity contains anything more than the intestines, which emit a resonant or tympanitic sound on percussion, and the extent to which the growth occupies the cavity.

Auscultation: Auscultation is also to be employed in the examination of abdominal growths. In carrying out this procedure it is necessary to apply the ear to different parts of the surface of the abdomen. If there is any reason to suspect pregnancy, the ear should be first applied over the left side of the abdomen, midway between the umbilicus and the middle of Poupart's ligament. At this point the fœtal heart sounds can usually be heard, if the embryo occupies what is considered its normal position, that is, with the vertex to the left. Auscultation also enables us to determine whether or not the swelling which is present is due to to aneurism, for by this means the presence of the aneurismal bruit can be determined.

The effort to elicit *fluctuation* is the next step in the examination. By this is meant the production of a wave through the mass of fluid when the walls of the abdomen are struck or percussed. If one hand is placed on one side of the abdomen, and the other side is percussed with one or two fingers of the other hand, the movement of the fluid is felt distinctly. This wave differs much in amplitude according to the density of the fluid and also according to the character of the cyst in which it may be contained. If the fluid is thin and limpid, the wave is long; if the fluid is very dense and viscid, the

wave is short. The ability to determine these differences is acquired largely by experience. I simply give you here general statements in regard to the differences in the fluctuation wave in fluids of different density. Fluctuation also enables us to a certain extent to determine whether the fluid is contained within a cyst or in the general peritoneal cavity. This also requires some experience in order to insure accuracy. Fluid in the general peritoneal cavity gives in fluctuation a wave which pervades the entire cavity, and this can be felt by placing the hand on different parts of the surface. When, on the other hand, there is even a thin cyst wall it is sometimes possible to distinguish the limit of the wave movement. Fluctuation can also be developed by introducing a finger into the vagina, and if the cyst occupies the pelvic cavity, fluctuation can be obtained by percussing the abdominal wall and feeling the wave with the finger in the cavity of the vagina.

I desire also to call your attention to a wave-like movement which is sometimes obtained on percussing the abdomen, and which is known as the fat wave. This wave is found in patients with very fat abdominal walls, this fat being loosely held in the meshes of the fascia. It is important that this be borne in mind, for errors in diagnosis have been made by the confusion of this wave with that of fluctuation.

We have so far examined the abdominal surface. It has been examined with the eye so as to determine its contour and outline. It has also been examined by palpation and percussion. The ear has been placed on the surface and auscultation has been performed. The effort has also been made to determine whether the fluid is contained within the peritoneal cavity or in a cyst in the cavity. This has been done by eliciting the fluctuation wave.

I might say, in addition, that it is desirable to employ mensuration—that is, measuring the enlargement. This can be done by a tape-measure passed around the abdomen at the level of the umbilicus. Then, at the point of the ensiform cartilage, also at the point of greatest enlargement, which is usually below the umbilicus, and a measurement may also be taken just above the pubes. In this way the circumference at these various points can be ascertained and recorded. It is also important to note the distance from the ensiform cartilage to the umbilicus and from the umbilicus to the pubes. If it is necessary to examine the patient from time to time, these measurements can be repeated in order to determine the variation in size.

Having completed the external examination, we are now prepared to make a vaginal examination. I take the opportunity of saying at this point that no one would be justified in undertaking abdominal incision without completing any examination which has been made by a vaginal examination. I can recall at this moment one case in which this step was neglected and the abdominal cavity was opened and a pregnant uterus found. A vaginal examination in this case would undoubtedly have revealed the existence of pregnancy, and the patient would have been saved the rather dangerous operation of abdominal incision. For the purpose of a vaginal examination the patient should lie on her back and should afterwards be changed to the side. The finger, well anointed, should be passed into the vagina and at once seek the cervix. Having examined the cervix, the finger should be swept around the neck, and as it is withdrawn palpation should be made anteriorly, laterally, and posteriorly. Then bimanual examination should be practised, with the finger of the right hand in the vagina, pressure being made over the surface of the abdomen with the left hand. In this way information can be obtained in regard to the connection of the growth with the uterus. Other points of information which can be obtained in this way are the following: A cystic tumor occupying the pelvic cavity can be felt through the vaginal wall. A solid tumor can be felt in the same way. So with the finger introduced into the vagina, the occupation of the pelvic cavity can be determined through the vaginal walls. As I have already stated, fluctuation can be obtained with the finger in the vagina, percussion being made on the surface of the abdomen with the other hand.

It is also necessary to introduce the sound into the uterine cavity in order to determine the condition of the uterine canal. It is desirable that beginners in performing this operation should use the speculum. After years of experience, one may be enabled readily to introduce the sound without danger into the cavity of the womb without a speculum, the finger of one hand being introduced into the vagina and placed on the cervix and the sound being carried along this as a guide. There are so many dangers, however, which present themselves in the introduction of the sound in cases of uterine tumors, and, indeed, even of other tumors connected with the uterus, that it is desirable to use the greatest care in the introduction of the sound into the canal. It should not be forced, but the way should be felt. It frequently happens that there are displacements of the uterus by reason of the pressure of the growth, whether this be solid or cystic in character. With regard to the presence of cystic growths, the information obtained by passing the sound into the uterus relates rather to the mobility of the uterus and to the fact of its being drawn up from the cavity of the pelvis or forced down into the cavity. On the one hand, we may assert with reasonable accuracy that adhesions exist if the uterus is found to be drawn up into the cavity of the pelvis and held in a fixed position; and on the other hand, we may infer that the cyst is impacted in the cavity of the pelvis, if the uterus is in a state of flexion, either antero or retro, and is immovable in its position. In fibroid growths, especially of the submucous and mural varieties, the uterine canal is notably elongated, and the sound introduced into the uterus will give very valuable information as to the seat of the fibroid tumor.

With the speculum we can ascertain the color of the mucous membrane of the vagina and the color of that covering the cervix. This is regarded as a matter of importance, as in the pregnant female the color is of a purplish hue, which is thought to be diagnostic. Another point to be ascertained with the finger in the vagina is the condition of the cervix, as to softness or hardness.

In addition to the examination by the vagina, it is sometimes desirable to make an examination by the rectum. By this means the existence of growths which cannot be readily reached in the vagina can be determined. It is, of course, necessary that an enema should have been administered beforehand in order to unload the lower bowel.

It is also well to complete the examination by the introduction of the sound into the cavity of the bladder. With this instrument in the bladder, and the finger in the rectum, bimanual manipulation can be made which will assist in the detection of tumors occupying the pelvic cavity.

In order to illustrate the points to which I have alluded, I shall next examine the patient now upon the table. She has been prepared by the removal of all unnecessary clothing and of all constrictions around the waist. The abdomen is exposed, and on inspection we observe that it is irregular. In the median line there is a projection, and on the right side there is another. The observance of two irregular points upon the surface gives us certain information in regard to the nature of the growth which occupies the cavity of the abdomen. It excludes certain conditions. For instance, pregnancy. In pregnancy there is a uniform enlargement of the abdomen, and the surface is not irregular as in the present instance. Inspection does not enable us to say whether these irregularities are due to pedunculated fibroid tumors or to exogenous cysts forming part of an ovarian cyst, but it does enable us to say that this is not a case of pregnancy and not a case of simple cyst.

Palpation is the next method to be employed. By making pressure with two or three of the fingers over different parts of the swelling, I can easily feel beneath the abdominal wall a hard, resisting mass which is not elastic. This would seem to indicate that the growth is solid and not cystic. Palpation elicits the same sensation over all parts of the growth. We cannot say positively from this examination that this is not a very dense multilocular cyst. You may be able, after much experience, to determine very slight shades of difference in the elasticity, which can be obtained even in cases of dense multilocular cysts. So far as I can ascertain from palpation, I am inclined to believe that we are dealing with a solid tumor and not a cyst. Not only do the fingers determine the presence of a hard, unyielding mass, but those projections which were noticed on inspection can be further outlined. Slightly to the right of the median line is a large mass which appears to be attached to the uterus by a broad pedicle. On the left is another mass, and below the tumor on the right there is a small mass which seems to be somewhat movable. This would seem to indicate that these growths are fibroid tumors which are attached to the body of the uterus by either broad and short or narrow longer pedicles. In the former case being called sessile and in the latter pedunculated or pedicalated growths.

You will observe that the brownish line reaching from the umbilicus to the pubes, which has been referred to, is present in this case.

Next, I shall practise percussion. Beginning at the ensiform cartilage, and percussing in the median line, there is, as you observe, resonance down to this point, about two and a half inches above the umbilicus. Here the sound suddenly changes into that of dulness or flatness. As I pass downward in the median line, the same flat sound is elicited below the umbilicus. As I pass on either side of the median line from the point before mentioned, the dulness is found to exist there also. The patient is next turned on the left side, and percussion performed over the right lumbar region and lateral side of the abdominal cavity. At this point we find the dulness which belongs to the liver, and as we pass downwards we reach the resonance belonging to the ascending colon. Turning the patient now upon the right side and percussing over the left side, we find in the posterior part of the lumbar region, the resonance depending on the presence of the descending colon. As we come toward the median line, the sound becomes dull or flat, showing that this mass projects more into the left side than into the right side of the abdominal cavity.

Testing for fluctuation, I find it impossible to obtain any wave. We can therefore say that there is no fluid, either in the abdominal cavity proper or in any cyst contained in the abdominal cavity.

Continuing the examination, I place my ear over the abdomen at the point which I have before mentioned. I am, however, unable to hear any sound which may be regarded as indicating the presence of a fœtus in the uterus or any aneurismal bruit which would be found in dilatation of the aorta. Auscultation, therefore, gives altogether negative signs in this case.

Examination per vaginam shows that the uterus is small. The cervix is slightly elongated and that of a woman who has never been pregnant. The uterus is fixed and immovable in a position of marked retroflexion. Palpation through the vaginal walls reveals the presence of hard, unyielding masses. These, so far as can be ascertained, are attached to the body of the uterus. Owing to the displacement of the uterus, it is impossible to introduce the sound completely. It simply passes into the cervix, but not beyond the internal os.

Rectal examination has not been made, nor has any examination by the bladder been made, as the symptoms were sufficiently prominent and characteristic to enable us to arrive at a conclusion without employing this manipulation. In any case of doubt, however, it is necessary that examination by the rectum and bladder should be made as before stated.

Having passed in a systematic manner through the different steps of the examination, we are enabled to arrive at a conclusion in regard to the nature of this growth. In other words, we are prepared to make the diagnosis. From what I have seen, and from what I have felt, I am prepared to say that we have here fibroid tumors which are of the subperitoneal form. Whether the uterus itself is involved to any great extent cannot be positively determined, owing to the impossibility of introducing the sound. It is, however, quite possible that in addition to the subperitoneal form of fibroid tumors there is also the mural form or that in which the body of the uterus is affected.

Before passing to the question of treatment, I would say that there are three varieties of fibroid growths, or if you choose to call them so, of fibro-myoma or fibromyomatous growths. These varieties are the subperitoneal, in which the tumors lie beneath the peritoneum; the interstitial or mural, in which the tumors are located in the substance of the uterus itself, and the submucous, in which the tumors are situated beneath the mucous membrane of the uterine canal. In the subperitoneal variety the tumors project from the surface of the uterus, being covered with a layer of peritoneum and sometimes attached to the body of the organ by a broad and short pedicle, in which case, as I have said, they are called ses-

sile growths, or by narrow and long pedicles, in which case they are called pedunculated growths. In those cases in which the pedicle is small and long, the mass can be readily moved about the cavity of the abdomen. Not only so, but it falls about if no adhesions exist, as the patient changes her position from side to side or rises from the recumbent to the erect position. In the case of mural tumors, which, as already stated, occupy the substance of the uterus, the organ is uniformly enlarged. Where they exist without the presence of subperitoneal or submucous tumors, the uterus is uniformly enlarged, as is found in pregnancy. In the submucous variety the growths form beneath the mucous membrane and project into the cavity of the uterus. Sometimes they get into the canal, and the contraction of the muscular fibres forces them on down until they escape from the cervix, forming what are known as polypi, the pedicle being in these cases elongated so as to permit the growth to pass into the cavity of the vagina. Frequently these submucous fibroid tumors are very large, and they do not pass into the canal and become pedicalated, but distend the cavity of the uterus and change the direction of the canal.

The symptoms in the submucous and mural varieties of fibroid tumors are largely connected with the menstrual flow, and they relate to an increase of the flow. I have had some patients who lost enormous amounts of blood at these periods. This is a prominent symptom, and should always lead to a suspicion of this form of growth. Hemorrhage at the menstrual period is not so marked in the mural as in the submucous variety. This symptom may be entirely absent in the subperitoneal variety of fibroid tumors.

I next come to the question of treatment. At the present day, various methods of treatment are practised. In the first place with regard to medication. Mural and submucous growths are amenable to treatment by means of such remedies as ergot, which, by contracting the bloodvessels of the organ, diminish the nutrition, and in that way limit the growth of the tumor. There has been sufficient experience obtained in the use of ergot and its preparations to warrant the conclusion that these forms of growth can be positively limited. Whether or not they can be ultimately removed, is still a question, but their growth can be checked. Ergot is not of as much value in the subperitoneal variety, especially in the pedunculated form, where the pedicle is long and narrow. It may be of some service where the pedicle is broad, as in the sessile growths, and where the effect of the remedy can reach the bloodvessels of the attached mass. The muriate of ammonium was employed by the late Dr. W. L. Atlee, who regarded it of value in the treatment of fibroid growths of the uterus.

After these remedies, operative interference may be employed, but there are two very important questions or conditions to be considered before any operation is to be decided upon. In the case of fibroid growths in which the menstrual flow is so great as to drain away the life of the patient, it may be justifiable to interfere with the knife. There is also another condition which would warrant operative measures, and that is the enormous size of the mass, making it a burden to the patient too great to bear.

In regard to operative interferences, the menopause can be anticipated by the removal of the ovaries. If any operation is to be performed, the removal of the ovaries, which is much less dangerous than extirpation of the uterus, is the one to be adopted. There are to my mind very grave objections to the performance of operations for the removal of fibroid masses which involve the body of the uterus or which are attached by very broad pedicles to it, and which are adherent to the viscera or abdominal wall.

A patient with a uterine fibroid can enjoy life and the growth can exist indefinitely without interfering with health. I have at this time under my care a number of patients suffering with fibroid tumors in whom I have practised the hypodermic injection of ergotine, or the aqueous extract of ergot, for a number of years. In one of these cases, I have used ergotine for the past eight years. Measurement of the abdominal enlargement in this case shows that the growth has not increased. It has, on the other hand, not markedly decreased. The patient does not loose much blood during her menstrual period, and is not rendered uncomfortable by the presence of the tumor. She is able to take part in all the enjoyments of her home, to ride out in her carriage, and to enjoy the company of her friends. I am quite sure that if I were to interfere in this case with a surgical procedure, I should terminate the life of my patient. In another case, in which I used ergot for three years, a most desirable result was obtained. In this instance, the growth was of the submucous variety. After the lapse of nearly three years, I observed that the mass was softening; and on palpation and percussion, fluctuation could be distinctly obtained. I also examined the mass from the cavity of the uterus, and found that there, too, it was softened, and fluctuation could be obtained. I therefore determined to incise the wall of the canal, which I did, and a mass of offensive fluid escaped, containing broken-down débris of muscular and fibrous tissues. My patient suffered greatly from pyæmic symptoms, and was very ill for a number of days; but by the vigorous use of antiseptic methods, washing out the cavity with antiseptic agents, as the solution of carbolic acid, surrounding her with the best hygienic conditions, and by the employment of tonics and stimulants, I was able to carry her through this critical period occupied by the evacuation of this large cavity formed by the breaking down of the tumor. Other instances of this kind have been recorded in which the effect of ergot has been markedly seen. I can only explain this transformation of the solid growth to the fluid or semi-fluid condition by the cutting off of the nutrition of the growth, and the production of positive gangrene.

There are instances on record in which incision of the lining membrane of the canal has been made and ergot afterward given. In this way, submucous fibroid tumors have been delivered. When the delivery has not been complete, the surgeon has interfered, and has removed the mass by cutting away portions of it at different times. This operation is attended with many dangers. Some of these dangers result from septic infection and shock. There is also the danger of the occurrence of hemorrhage.

From the examination of the case before you, the treatment which I should adopt, would be the long-continued use of hypodermic injections of ergotine, and this failing, the performance of oöphorectomy. I may

say, in regard to the hypodermic injection of this remedy, that the injections should be made in the abdominal wall; and in order to avoid the occurrence of abscess, it has been my practice to carry the needle of the syringe deeply into the tissues, not stopping until the muscular structures have been reached. In none of the cases in which I have used ergotine in this way have I met with abscess. As a precaution, I have frequently painted tincture of iodine around the puncture made by the needle. The form of ergot used is that known as Squibb's aqueous extract, which is made in a solution, the strength of which is one grain to the minim. Of this solution, I have given 25, 30, and 35 minims without producing any undesirable symptoms.

ORIGINAL ARTICLES.

EXCISION OF SUPERIOR MAXILLA, WITH REMARKS[1]

BY GEORGE A. PETERS, M.D.,
ATTENDING SURGEON TO ST LUKE'S AND CONSULTING SURGEON TO NEW YORK HOSPITAL.

J. J. M., æt. 55, married, born in Canada, has been a planter on the island of Cuba for several years past; came to New York for surgical relief, and placed himself under my care. He was seen in consultation by Dr. T. M. Markoe, Dr. R. F. Weir, and Dr. Chas. McBurney, my hospital colleagues. Not being willing to do a grave operation in a hotel, I persuaded him to enter St. Luke's Hospital, which he did May 4, 1884.

The history of his case is as follows, viz.: No history of any hereditary disease in his family. General health has always been good. No history of venereal disease. About two years ago, while riding over his plantation on the back of a mule, superintending some laborers, he was thrown to the ground, striking heavily upon the left side of his face, bruising it severely; at the same time he suffered severe contusion of the leg and back. His recollection is that the contusions of the lower limbs occasioned much more pain and inconvenience than the injuries of his head and face.

Before any tumor of the face was observed, the sight of the left eye "became poor," and there was an increase in the lachrymal secretions. "The eye itself seemed to be stiff." At night there was a slight discharge, which dribbled over the face during sleep. Has never had epistaxis. Began soon after this to complain of frequent attacks of pain above and around the left orbit. About eight months ago he observed a small swelling on the left alveolar process, above the first molar tooth. This tooth was extracted by a dentist in Cuba, who stated that there was some discharge from the cavity, and that the root of the tooth was diseased. This operation afforded some relief for the time.

Two months later, he had a severe chill, followed by a high fever. He then noticed a swelling on the roof of the mouth to the left of the median line, about the size of a hazelnut, and the left cheek now became much swollen. This, however, soon subsided, except for a small swelling which remained in the centre of the cheek. This tumor has gradually increased in size, forcing the cheek outward, projecting into the nasal cavity, and pressing down the hard palate. At about this time, he came under the care of a surgeon in Havana, who had great local reputation. He told him that he had a polypus in the left naris, which he then and there proceeded to remove with forceps and scissors. The result of the operation, as described to me by the patient, was a few shreds of mucous membrane, but no well-defined growth. He also plunged a bistoury into the tumor on the roof of the mouth, and removed a small section for future examination. On the following day his surgeon called and informed him that a thorough microscopic examination confirmed his diagnosis, and assured him that the whole affair was merely a polypoid growth, and was not at all malignant—in fact, that he was virtually cured.

Notwithstanding this, the tumor continued to increase in size and to give him much pain. About the middle of the month of February, 1884, I found myself in Havana in search for health. I was asked to see Mr. M. professionally. Recognizing the presence of a malignant growth, I arranged with him that he should "put his house in order," and follow me to New York, prepared to submit himself to whatever treatment should there be advised. Late in the month of March he was in Havana, expecting to come immediately on to New York, as agreed. At this time he fell again into the hands of the surgeon who removed his "polypus." He now told him that the progress of the disease had at length revealed that the tumor was an aneurism, and proposed to cure him by electrolysis.

The needles were introduced and the current applied. The result was an immediate increase in size and a very rapid growth. He was now utterly discouraged, and, as soon as he was able to travel, "took ship" and presented himself to me for treatment.

Condition when admitted to hospital was as follows, viz.: Since the introduction of the needle there has been a continuous discharge from the old cavity in the alveolar process into the mouth, which discharge has some odor. Breathing through the left nostril is somewhat obstructed. General condition of health is very good; appetite fair; bowels regular. On examination, the whole of the left superior maxilla is found to be occupied by a tumor, about the size of a large peach, which protrudes outwards just below the prominence of the cheek, and extends upwards to the ridge of the orbit. The left eye protrudes slightly. In the mouth a prominence is discovered from the palatal process just below the antrum. The first and second molar teeth upon that side have been extracted; and into the cavity formerly occupied by the first molar a probe can be passed for a short distance, and there is a continuous discharge from it. The skin of the face is normal in color and feel. The surface of the tumor is perfectly smooth, and feels soft to the touch, as though the bone had been absorbed.

May 7, 1884, operation: At 2.30 P.M., assisted by Drs. Bull and McBurney, I operated. The patient

[1] Read before the New York Surgical Society, Dec. 23, 1884.

was etherized by the rectum, so that I should have no delay or obstruction caused by the apparatus used in etherization by inhalation. The flap for exposure of the bone was made after Ferguson's method. An incision through the skin, well down upon the surface of the bone, extending from the inner angle of the eye to the outer limit of the orbit, parallel with and a little below the infraorbital ridge, and the other commencing at the nasal extremity of the first, and carried down along the side of the nose, around its ala to the columna nasi, thence down to the middle of the lip, including its entire thickness. The flap was dissected up rapidly, and turned down. The bleeding points were secured with clamps, the soft parts dissected away from the nasal process, and also the cartilage of the nose from the nasal notch of the maxilla. The left middle incisor tooth was then extracted. The malar bone close to its junction with the maxilla was notched with a small saw. The nasal process of the inferior maxilla at the inner angle of the orbit was treated in the same manner with the saw. The strong cutting bone-pliers were now used for completing the section of the bone, at the outer angle through into the spheno-maxillary fissure, at the inner angle, just below the groove in which lies the lachrymal sac. Two incisions were now made over the hard palate, one posterior and transverse, along the suture between the palatine bone and the horizontal plate of the maxillary bone, the other extending from the inner extremity of the first, along the longitudinal suture, uniting the horizontal plates of the upper maxillæ to the alveolus from which the incisor tooth was extracted. The hard palate was now divided by the large straight pliers, one blade through the nose and the other through the mouth. The whole tumor mass, which was soft and friable, was seized with the fingers and thumb, and twisted loose from its attachments, the scissors being used when required. All suspicious looking tissue was scraped away with a sharp-edged spoon until the surface in view looked healthy and normal. The periosteum was detached with a "seraper," and lifted up from the bone forming the floor of the orbit, so that after the bone was removed well back in the orbit, there should be a support left for the eyeball. The palati bones were left *in situ*, with an uninjured uvula and curtain.

The hemorrhage during the operation was but little, although the tumor itself was exceedingly vascular. Only three animal ligatures were required. The walls of the cavity were covered with iodoform gauze, and the cheek was filled out with three tampons of carbolized gauze, the strings attached to them being brought out through the mouth. The wound through the lip was secured with one harelip pin suture and one silver wire suture. The remainder of the flaps were held in place with continuous and interrupted sutures of fine black silk, and the line of incision was painted over with flexible collodion in which iodoform had been dissolved (one-half drachm to one ounce).

Patient was sent to his room. At 4.50 P.M., he raised himself in bed and appeared partially conscious. At 5.15 P.M., he attempted to speak. Had a movement from the bowels at 5.20, which had some form. Another at 6.30, which was thin and slimy. Neither passage contained any trace of blood. All oozing of blood from wound ceased at 9.30 P.M. There was no vomiting. Rested very quietly during the night, sleeping most of the time. Swallowed small quantities of ice water.

Went on to recovery without any drawback. The mouth was frequently cleansed with boracic acid solution. The tampons were removed from the cavity at the end of the third day, and the cavity packed loosely with carbolized gauze.

Harelip and silver sutures removed on third day. Union by first intention took place throughout entire incision, and all sutures were removed before the expiration of a week.

Was discharged cured May 22, 1884, two weeks after the operation. Only on two days during his residence in the hospital did his temperature reach 99°, and the highest pulse-beat recorded was once 104.

Pathologist's Report: Tumor received from St. Luke's Hospital on May 7, 1884, is connected with the alveolar process of the superior maxilla, left side, and as large as a hen's egg. It is soft, friable, and differing in consistency in different places. It destroys for a considerable extent the bony alveolar process and some of the teeth. It is composed of lobules of epithelial cells of irregular size, supported by a very delicate stroma. The epithelial cells at the periphery of the lobules next to the stroma are low cylindrical; elsewhere they are small, flat, or cuboidal, and distinctly nucleated. Numerous small, round, and spindle cells are seen in the stroma, which also show a goodly supply of bloodvessels.

Diagnosis: Lobulated Epithelioma (Ferguson). After leaving St. Luke's Hospital the patient recovered his health and strength rapidly. The deformity resulting was very little. The lines of incision were scarcely perceptible. His chief inconvenience was from the opening in the roof of the mouth, communicating with the nose, which rendered his voice indistinct, and permitted regurgitation of food so as to annoy him somewhat.

A dentist was consulted, who made a thin plate of gold with teeth attached, which, when in place, obviated the embarrassment, and was worn with much comfort. It was a difficult matter to secure the plate in position so that it would not "drop down." A piece of mechanism was contrived which was very ingenious and effective. To the upper or convex surface of the gold plate a button was attached by a hinge—the button stood up from the surface at a right angle—when the plate was placed in position this button projected into the cavity, it was then made to hook over and clasp the bony palatine plate of right maxilla at edge of the wound by pressing upon one of the molar teeth in the plate which was connected with the button by means of a spring. The plate was easily removed for purpose of cleansing and held very firmly in place. This apparatus he was enabled to wear during the entire time between soon after the first operation and the time he returned to his home in Cuba.

Copied from case-book, New York Hospital: Recurrent carcinoma of the face. Service of Dr. Geo.

A. Peters. Aug. 24, 1884, admitted to New York Hospital.

J. J. M., æt. 55 years. Born in Nova Scotia. Married. Planter.

Family history negative. Has always enjoyed good health until two years ago, when he fell from his horse, striking the side of his face. Last November a swelling appeared in inner side of left hard palate, and gradually increased in size. Patient was operated upon on the 7th of last May, in St. Luke's Hospital, by Dr. George A. Peters, and the left inferior maxilla removed. Recovery good. Three weeks ago a tumor reappeared in the left malar region, and has been growing rapidly ever since.

On admission, general condition good. Examination shows a tumor about the size of a half a pullet's egg, situated below the outer half of left eye, over molar region. The mass is hard, firm, elastic to the feel, and occasionally painful; is attached to subjacent tissues. Skin over the tumor is discolored, but not adherent to it.

Operation, August 27th, was done by Dr. Peters. Etherization was started by inhalation, and continued per rectum. A curved incision was made through the skin over the swelling, running toward the nose; flaps raised, and fleshy mass of the tumor removed. With the rongeur a considerable portion of the zygomatic process was gnawed away, and the prolongations of tumor tissue were scraped away from beneath that process and from the temporal fascia. Hemorrhage during the operation was considerable. Several small sized and one large bleeding point were tied with animal ligature. Rubber drainage-tube was inserted; the wound was sutured with fine black silk. Three ounces of ether were used by the rectum during the entire operation, which lasted for an hour and a half. The second operation did not open into the cavity left as a result of the first one.

Rallied well from the ether and operation; no vomiting, and no rectal symptoms. There was considerable œdema of conjunctiva and eyelids; no pain.

Drainage-tubes removed about thirty-six hours after operation. On the third day the sutures were removed. Union was complete except where the tube emerged; here a small sinus remained open for a few days, when it closed. At the end of a week from the time of operation, the patient left the hospital and went to his hotel. Returned to his home in Cuba, Sept. 13, 1884.

Pathological report by Ferguson, of New York Hospital:

"Examination of the tumor shows it to be a typical epithelioma. Large masses of flat cells are seen in a small amount of fibrous stroma, in which are many young cells of inflammatory origin."

Believing that rectal etherization would be especially desirable in this case by leaving the face unobscured by cone or any apparatus, I devoted some time to contriving a method which should be both safe and sure. Administration of ether by this channel had been but little practised, although fortunately comparatively much had been recorded in the journals. The chief dangers seemed to be either from overdistention of the bowels with ether vapor, or tenesmus with bloody discharges from the rectum, caused probably by fluid ether being forced through the tube and deposited in contact with the mucous membrane, producing inflammation. Experiments had demonstrated that the cool rubber tube produced rapid condensation of the vapor driven through it. The amount or rapidity of condensation did not seem to depend either upon the length or calibre of the tube. Ether boils at a temperature of 96° F. Theoretically, it seemed that if the vapor were superheated it would condense rapidly. The temperature of the water in which the vaporizer was immersed was kept as nearly as possible at a temperature of from 103° to 105° F. If the temperature is raised to 120° or 130°, the ebullition becomes so active as to drive over the fluid ether in considerable quantity.

Dr. Ogden C. Ludlow, who occupied the position of senior walker in St. Luke's Hospital, contrived a very simple and ingenious apparatus, by means of which we were enabled to secure the desired results.

It may be described as follows, viz.: two glass vials, of a capacity of from six to eight ounces. One vial, intended as reservoir for containing the supply of ether in sufficient quantity to last throughout the entire operation, should be marked with graduate lines, so that the amount used may be accurately measured. This is connected with the second vial, intended to be used as the vaporizer, by a rubber tube with a forcing bulb, as in Davidson's syringe. Vial No. 2 is placed in a jar of water with a thermometer, so that the water may be kept at the required temperature. To a curved glass tube projecting through the stopper of vial No. 2 is attached a rubber tube, about two feet long, on the distal end of which is a nozzle for introducing well into the rectum. Into this rubber tube, about eight inches from the nozzle, is inserted a short glass tube, from which the apparatus can be easily detached when the vapor is not needed. The glass also enables one to discover when fluid ether is driven through it. Through the cork stopper of vial No. 2 a second glass tube is passed, which tube receives the rubber from vial No. 1, through which ether is fed as required from the reservoir.

Here we have a very simple and easily managed apparatus.

When a sufficient quantity of vaporized ether has passed into the rectum, the tube is slipped off from its glass attachment near the anus and left in situ. The connection can be rapidly reëstablished when vapor is needed. This tube left in the rectum has also the advantage of affording a ready escape for any excess of ether vapor which may have been driven on, or for gases generated in the bowels.

To show how satisfactorily the apparatus works, I will here read the report of what was very carefully observed and recorded at the time by Dr. Ludlow, who had the sole charge of the administration of ether in the case.

"May 7th, at 2.30 P.M., patient was etherized per rectum, half an ounce of brandy having been given previously. At the beginning, pulse 104. One and a half ounces of ether were then forced into the vaporizer. Within one-half a minute he tasted the ether in his mouth, and was at once seized with a

desire to evacuate the contents of his bowels, although two enemata had been given in the morning. In five minutes the muscles of his arms were relaxed, and the conjunctiva but slightly sensitive. After another minute he opened his eyes, spoke, and turned over on the table. Another ounce of ether was then forced over into the vaporizer. The ether cone was then placed over his face. He struggled for a short time, but was completely anæsthetized in eleven minutes from the commencement, when the cone was removed. Ether was administered per rectum for fifteen minutes, when the tube was disjointed. This was followed by a discharge of ether and foul-smelling gas through the tube. After this, the tubes were connected for one or two minutes at a time; making the total time of actual etherization thirty minutes. The last charge of ether vapor was given one hour and thirty-two minutes from the start, but the operation was not completed for thirty minutes more. At the end of two hours and ten minutes, the conjunctiva became sensitive and the arms commenced to stiffen. Pulse 120, and fairly strong. Amount of ether used, three and a half ounces."

For the second operation, done August 27, 1884, the ether cone was applied over the face until he came perfectly under its influence, when it was removed. The tube was then introduced into the bowel, and rectal etherization was employed throughout the time of the operation. The apparatus used at the New York Hospital was extemporized from the materials at hand, and was by no means as complete as the one described above. It answered the purpose, however. Patient was anæsthetized for an hour and a half; only three ounces of ether were used, and this only for a few minutes at a time, connecting the apparatus only when the effect of the anæsthetic seemed to be passing off.

My experience in operating upon the mouth, or its neighborhood, involving either complete or partial excision of the jaw-bone, notably in several cases of extirpation of pharyngeal tumors of a malignant nature, reports of which have been made before this Society, led me to appreciate the great hindrance to rapid or thorough removal caused by the presence of the ether cone as generally employed. The operator is frequently obliged to interrupt his manipulations at a critical point in order that more ether may be given, or the mouth and throat cleansed of accumulated blood, etc. In order to obviate these hindrances, and also to render it safe to use the actual cautery where required, I had on several occasions performed laryngotomy as a preliminary step. This enabled me to administer the ether through a tube inserted in the wound, and extending to the reservoir of ether at any chosen distance. This procedure also enables the operator to plug the fauces, and thus prevent the influx of blood, etc., into the air passages. The cases in which I had used this procedure were so entirely satisfactory that I resorted to it without any hesitation. I have seen no bad results from the opening in the windpipe, which opening I always close before the patient is removed from the table. When rectal etherization was first brought to my notice, I recognized in it a less formidable adjunct, provided it should be proven reasonably safe. By it we accomplished all that is afforded by laryngotomy, save that it will require much greater care in packing the posterior fauces.

The use of the rectal method in the two instances above recorded, encourages me to believe that, with proper precautions in its use, we have a method which is both safe and sure.

Previous to the year 1826 considerable portions of the upper jaw had been removed by surgeons in various countries, notably by Dr. Alexander W. Stevens, of this city, who, in August, 1823, removed a large portion of the upper jaw for a disease of the antrum, and seven years afterward his patient was in perfect health. Dr. Stevens claimed that he was the first to operate upon the principle of cutting through the sound and not the diseased parts.

Dr. David L. Rodgers, of New York, in May, 1824, successfully removed the greater portion of the superior maxilla for osteo-sarcoma.

Mr. Lizars, of Edinburgh, in 1826, first proposed the entire removal of the upper jaw. In 1827 he attempted to carry his plan into execution for removal of a medullary sarcoma of the antrum, but was obliged to desist on account of the hemorrhage.

On May 26, 1827, Gensoul, of Lyons, removed the entire superior maxilla, with the whole of the palate bone. Patient recovered.

At length, in August, 1829, Mr. Lizars performed his second operation, which was successful. Surgeons of the present day do this operation as opportunity offers with generally good results.

Resections of portions of the superior maxilla, for the purpose of securing access to tumors in posterior nares or fauces, is frequently practised. The method of incision of the soft parts in order to reach the bone is a matter of importance, and deserves consideration.

Mr. Lizars used an incision across the cheek, from the angle of the mouth to the malar bone; or, when the tumor was very large, employed an incision through the lip into the nostril, with a vertical cut on the malar bone. With the saw and bone forceps, the maxilla was separated and removed. This was the cut made by most surgeons, until Sir William Fergusson proposed an important modification in the method of procedure. The deformity resulting from the methods in vogue, led him to devise the plan of carrying the incision solely through the medial line of the lip into the nostril, in the manner used by me and described in my note of the operation.

In the operation for removal of the superior maxilla, the hemorrhage is, in some cases, very profuse; but if done rapidly and dexterously, securing the larger bleeding vessels with clamps, the surgeon need not fear fatal bleeding.

I will bring my paper to a close with a few remarks as to the class of cases in which the operation is justifiable.

Necrosis of the upper jaw, whether as the result of injury or disease in neighboring soft parts, syphilis, etc., requires operation sometimes even to the extent of removal of the entire jaw.

Non-malignant tumors of the upper jaw, as fibroma and enchondroma, occasionally attain a size requiring removal of the entire bone.

Hyperostosis of the jaw, which consists primarily in periosteal inflammation, leading to the deposit of new bone, and the expansion and filling up of the original osseous structure, is unconnected with syphilis or stroma, and appears to be beyond the control of remedies; and not infrequently reaches so great a size as to cause much deformity, and justify the removal of the entire maxilla.

It is in connection with malignant tumors of the upper jaw that the surgeon is often called upon to decide as to the propriety of removal.

It is now well established by the experience of many operators that the operation, even when so radical as the removal of the entire jaw, does not result in a cure, we can predict with almost absolute certainty that the disease will return within a year. The temporary relief afforded in connection with the moral effect of the operation will, I believe, justify it.

In the case above narrated, both the patient and his wife declare that, although the disease has again appeared, and no further operation is contemplated, the relief from pain and horror, experienced after the operation, renders them satisfied that it was done.

When the patient sailed for Cuba, about the middle of September last, a careful inspection of the cavity, seen through the opening in the roof of the mouth, revealed a recurrence of the disease to a slight degree. Under date of December 16th, I have heard by letter that the disease is progressing slowly. Mr. M. is decidedly of the opinion that the growth is retarded by the use of the fluid extract of red clover blossoms, which he has used diligently ever since the operation, in half ounce doses three times a day.

FORMER VIEWS AS TO THE CONTAGIUM OF CHOLERA.

TREATMENT STILL INDEPENDENT OF ITS ETIOLOGY.

BY EZRA M. HUNT, M.D.,
OF TRENTON, N. J.

Now that the germ theory of disease, and especially its relation to Asiatic cholera, is attracting so much attention, it is neither uninteresting nor unprofitable to note the earlier history of these investigations. While it must not discourage us as to future possible attainments, it may so moderate our zeal as to lead us more accurately to weigh the significance of what has been discovered and to assign to it only its real prominence.

As long ago as 1838, Boehm made some very definite observations. In the ninth report of the Medical Officer of the Privy Council of Great Britain (1866), Dr. John Simon very forcibly calls attention to these observations. "If," says he, "the doctrine of a cholera fungus should hereafter be substantiated, it will probably be conceded that Boehm deserves the credit of having first published a thoroughly valid account of the phenomena of cryptogamic vegetation in choleraic intestines and discharges, and that Hallier's researches do not better join on to the recent essays of Thomé and Klob than they might have joined in 1838 on those of Boehm. The fifth section of his admirable little book describes as almost constant that the whole extent of the intestine (but generally the large intestine least) teems with a vegetation of microfungi; that innumerable round and oval or more elongated corpuscles are to be found in all the vomit and dejections as well as in the canal, sometimes single, sometimes two, three, four, or more joined end to end, as links of a chain, and these chainlets sometimes branching; that such forms are held together in mucous floccules and come best to light when liquor potassæ is used; that within the small intestines they are often so numerous that not the smallest specimen will fail to show numbers of roundish fungic forms amid the débris of the epithelium. He appends an illustration, which shows quite unquestionably the forms of cryptogamic growth, and refers for similar forms to Schwann's then recently published investigations of yeast."

In a pamphlet published in London in 1833, Dr. Tytler had so far connected a fungus of the rice plant with cholera as to attract much attention. It led Hallier, in 1866, to raise rice plants, of which in their early stage of growth he made longitudinal sections, and found fungus-threads in great numbers perforating the epidermis of the plant in several places above the juncture of the rootlets. By the aid of glycerine a multitude of cryptococcus cells were seen, and had the same characters as when known urocystis grows within cereal plants. While not proving the identity of the parasitic fungus with the cyst-bearing plant, he did show that a form of the same type could be produced in rice watered with cholera evacuations. (Buchanan, p. 515.)

The discussions in England in 1849 as to a so-called cholera fungus were very extended and earnest, as the journals and some disquisitions fully attest. It was in that year, too, that our own Dr. Mitchell, of Philadelphia, wrote "On the Cryptogamous Origin of Malarious and Epidemic Fevers." The Bristol Medico-Chirurgical Society had Drs. Britton and Swayne at work as a microscopical committee, and in their examinations of choleraic discharges had independently of one another observed often in very large number certain secular forms, "annular bodies," "cholera cells," etc., which they believed to form a connected series, and to be characteristic and causative of the disease. Mr. John Quekett, then an eminent microscopist, examined Mr. Britton's specimens from air, vomit, and dejections and "had no hesitation in stating that, in his judgment, they were successive stages of development of the same body, which he believed to be of a fungoid nature." Dr. Budd, then of Bristol, seems to have accepted these views, while Dr. Snow committed himself no further than to say that there was a something which being swallowed can increase and multiply within the stomach and bowels. Dr. Cowdell, of Dorchester, the year before, had sought to establish on theoretical grounds that cholera must depend on a microscopical fungus. At the time, the report made to the College of Physicians by Drs. Baby and Gull and Mr. Marshall was circulated more than the views and observations of these suburban practitioners; although Hallier himself (1866) very fairly,

as it seems to us, recognized them as bearing on the hypothesis of a vegetable parasitic origin.

To Dr. Ernst Hallier chiefly (Leipzig, 1867) must be given the credit of the earliest, most minute inquiry in this direction. The care which he took "to prevent the accidental introduction of other fungi into his experiments and his check experiments to detect possible errors," are still the admiration of those who now work with all modern facilities. The stools are described as having characteristic vegetable elements which consisted of a fine fungiform matter (Hefe) which floated, and of more highly developed spore-cysts which sank to the bottom. These spore-cysts are described as yellow or brownish bodies, consisting of a pale membrane enclosing highly refracting colored spores. The cyst wall undergoes a series of changes, ending in its rupture or solution, and the spores then become free. The spores, by progressive partition (a process which may begin before they leave the cyst), resolve into very small cells, grouped into balls and heaps, which Hallier calls "colonies" of micrococci. "The small cells of micrococcus constitute the fungiform matter which is the other vegetable element seen in the evacuations." Besides these two elements, torula-like bodies were found in smaller numbers, and were shown by experiment to develop from the micrococcus cells; nuclei growing within the ball or heap and sometimes constituting the greater part. Around some of these nuclei a very delicate cell-wall may be found, but to detect this glycerine must be employed. The "formation of these cells, which occur singly or in rows, marks a step toward a higher development of the micrococcus." Even this outline shows what studies were made in this direction as preliminary to discoveries announced more recently.

However important new observations may be in a biological sense, let us not too hastily conclude that they have given us any real information as to modes of prevention or treatment. Dr. Simon, in connection with the article of Dr. Buchanan (see Report), also refers to the writings of Prof. Pacini, of Florence, who, "from 1854 to the present time (1866), has described the choleraic processes as consisting primarily in the destruction of the epithelium and villi of the intestines by an infiltrative vibrional development, and has argued that these vibriones and their germs—molecules of less than $\frac{1}{25000}$ of an inch in diameter—poured forth in millions in the discharges of the sick, must constitute the contagium of cholera."

It appears to us that some of our more recent descriptions differ more in classification, and in a more correct nomenclature, than in actual observation, especially when we also come to read over the descriptions by several other observers. Is not this remark of Dr. Simon in 1866 still in order, "It appears to me that not only the mere *biorama* of the intestinal contents, healthy as well as choleraic, will have to be studied far more extensively than it has yet been, and in all its accidental variations, but also that, in the general study of zymoses, no doubt must remain as to the etiological *significance* of the low organic forms which attend the chemical transformation"?

Pacini quotes from Bloch a very graphic expression of the truth in calling this field of study the "infusorial chaos of the intestines." Some order has come out of this chaos, but we must still think not enough to determine etiological relations or to settle much as to prevention or treatment. The application of Koch's solution of corrosive sublimate is not a result of any new knowledge as to the comma-bacillus, and the ephemeral life of it when thoroughly dried has as yet, perhaps, no practical application beyond what has long been known as to the value both of heat and dryness in disposing of all vegetable organisms.

It is to be hoped that, in case cholera should come among us, the Government will be prepared to sustain skilled experimentation, such as was provided for at Havana as to yellow fever. But it is to be insisted upon more earnestly that every particular of protective quarantine shall be provided, so that at the point of embarkation and on the ocean there shall be inspection, and both "sick and well call," and that all passengers, if need be, come under the daily notice of the surgeon. If this plan were to prevail, and all concealment were to be avoided, no case of cholera from an eight or ten days' voyage ought ever to arrive at our ports. In prospect of possible arrival, municipal and other health officers have little time to study or to be in expectancy about that myriad life of disease in which "hovers a multitude of minute bodies, differing essentially in their nature and animated by forces generating forms, giving rise to most extraordinary phenomena."

Our hope is in the study of the history of the clinical phenomena. Whatever will forestall the entry of the dangerous particles; whatever will put the system, or the part invaded, in a condition unfriendly to their fructification, or whatever will, in a medicinal way, interfere with the multiplying process, is the thing to be sought. We have alluded to the knowledge of over a quarter of a century ago, to show that no great change of base has been made by any recent discovery, and also to emphasize the need of that kind of sanitary, medical, and administrative preparation which is worth more than any recent "study of germs," however helpful this may eventually be for medicinal and non-medicinal therapeutics.

SOME POINTS IN THE RELATION OF SYPHILIS TO PULMONARY DISEASES.

By JOHN FERGUSON, M.A., M.D., L.R.C.P.,
ASSISTANT DEMONSTRATOR OF ANATOMY IN THE TORONTO SCHOOL OF MEDICINE, TORONTO, CANADA.

That there is often a very close relationship between diseases of the lungs and syphilis has for considerable time occupied my attention. We have all met with cases of pulmonary trouble that may have baffled us to find a satisfactory cause. A case that is diagnosticated as phthisis occurs in one member of a family, all the others being in perfect health. There may not be the slightest trace of consumption in the ancestry; nor has the person, who comes under our care, been so employed as to lead to the suspicion that his disease has arisen from such employment.

The difficulty of tracing to their true origin such cases of chronic lung disease as these, when we can find no evidence of another case in the family record, is sometimes very great, if not wholly impossible. One or other of the parents or grandparents may have had syphilis, and the fact be beyond our reach. There is no doubt, however, that the offspring of such parent or parents suffer differently. One has eruptions of the skin, another caries of the bones, a third obscure and obstinate nerve lesions, while a fourth has, as I shall try to show further on, disease of the respiratory organs. Nor is it necessary that the syphilis be inherited to cause lung disease. The person who contracts syphilis may suffer thus in his own lifetime.

The first case that set me a-thinking in this direction occurred in the person and family of a school-teacher, aged, when he consulted me, twenty-eight. The examination of the chest gave only too certain evidence of phthisis. Not suspecting syphilis, he was treated in a manner calculated to benefit a consumptive; but I need hardly say that the result was far from being good. Near the close of his life, after he had been under treatment for a year, he informed me that seven years previously he contracted syphilis, and was treated for it during a period of about two months. On inquiry, I found that he had suffered very little with sore throat, and that the rash on the skin was but slight.

On learning this, he was put on anti-syphilitic remedies, but despite these he sank and died, as his friends believed, an emaciated consumptive; as I believed, a syphilitic with pulmonary lesions.

One of his children, a little boy, had died of a wasting condition before the father came under my care. The remaining children, two little girls, were aged five years and one year respectively. The elder of these was delicate, but being sent to live with an uncle she passed from my notice. The younger took on lung disease, which progressed rapidly, and the little patient died from a copious hæmoptysis, a rare occurrence in so youthful a patient. I must here state that the mother was a very obstinate person, and, believing the child to be consumptive and incurable, would have nothing done for it.

In these cases we have the appearance of wasting lung disease in a family whose blood relatives on both sides were perfectly free from phthisis. The only likely cause is the syphilis which the father contracted about six years before he consulted me first. At all events, if the syphilis in the father was not the cause of the lung disease in his own case and in those of his children, we have the coincidence.

Another family, from which some very important conclusions may be drawn regarding the relationship of syphilis and pulmonary diseases, came under my notice in the fall of 1882. The first patient from this family was a young man of about twenty-one years. He came to me on account of his consumption. On examining the chest there were well-marked evidences of disease. He coughed a great deal and expectorated freely. His pulse was frequent and his temperature 100° F. I inquired carefully as to his private life, but with entirely negative results, there being no suspicion that he had ever had syphilis. He was treated for some time in a general tonic manner, with very slight improvement. After my patient had been under my care for nearly three months, the father called one day to talk over the condition of his son. At this interview I drifted the conversation onto his own former state of health, and ascertained that when a young man he had had a severe sore throat. On examination of the fauces, marks of former syphilis could be seen. He also stated that he had suffered at the same time with cutaneous disease; that his general health was bad, and that there were pains in his bones.

This seemed to me to be a clear case of syphilis in the father; and I argued accordingly as to the case of the son, whose treatment was changed from that already ordered to an anti-syphilitic one. From this time onwards the progress of the case was good. He began to gain in flesh, his cough became less troublesome, and the expectoration decreased. The unhealthy sounds in the lungs gradually disappeared, and I got the credit of curing a consumptive.

Almost to a day, one year after the above patient consulted me, his sister came, and for the same condition—consumption—as she thought. There was not the same difficulty in the way this time. My former experience stood me in good place, and enabled me to proceed at once to a specific form of treatment. The results were, as in the former case, good.

Previously to either of these patients consulting me, a brother had died of some pulmonary condition.

I do not pretend to say why it was that three persons contracted pulmonary disease as a result of inherited syphilis. It might possibly be that there was a weakness in the respiratory organs, and it became distinctly apparent under the influence of the syphilitic virus. One thing remains, as a clear fact, that two of the three recovered from their lung disease under proper treatment for syphilis; and the third, who died, might have recovered under the same management.

The third instance of the ill-effects of inherited syphilis on the respiratory organs was afforded by the child of a man whom I treated for the disease some time before he was married. This man, though well warned of the fact that syphilis required a prolonged treatment, was not overly observant of his warnings. He married, and became the father of the child which is the subject of the present remarks. This child did not come under my notice until it was about one year old, when I was consulted on account of frequent attacks of spasmodic laryngitis. I was told that these attacks had been very frequent for some months. The usual mode of treatment was recommended. The child now passed from my observation for fully six months, when I was again sent for, and informed that the attacks still continued with as great frequency and severity as ever. Recalling the fact that the father had suffered from syphilis, the child was treated with a view to this being the cause of the croup. Potassium iodide was ordered internally, and inunctions of ung. hydrarg. externally. Shortly after this treatment was commenced the child got well, and has continued so ever since.

In this case neither father nor mother had any tendency to disease of the respiratory organs. They were neither strumous nor phthisical. As the father was a known syphilitic, and the child's spasmodic laryngitis was rapidly cured by a course of specific treatment, one can hardly but admit that the inherited taint here stood to the child's sufferings in the relation of cause and effect.

A fourth and instructive case was that of a young man who had been treated for syphilis in one of the Dublin hospitals. He was a rather intelligent person and could relate accurately the circumstances connected with the disease—its name, and the symptoms it gave rise to. This was about seven or eight years before the date on which I saw him.

At my first visit I found him suffering with asthma and bronchitis, both of which proved very obstinate. He informed me that he had been playing in a band almost every evening during the entire winter and spring up to the date when I saw him, in May.

This was his first attack of asthma, and, apart from slight colds, his first attack of bronchitis. The usual remedies for asthma had only an ameliorative effect. The bronchitis continued, despite all efforts, and he had frequent attacks of coughing, severe enough to give rise to some hæmoptysis. It was after attending him for considerable time that I learned his syphilitic history as already stated.

On making this discovery, he was ordered iodide of potassium, and from this time onwards he improved steadily. There are a certain number of cases of asthma that do well on potassium iodide, but whether all of them have a syphilitic taint or not I do not pretend to say. I have met with other cases of asthma that did not improve on the administration of this drug. The clinical facts of importance in the present case are that the patient had had syphilis, that he had been engaged in a band, and had induced bronchitis from the exposure and strain, and that no improvement took place until an antisyphilitic treatment was ordered. It seems to me absurd to deny that there was some connection between the two diseases in the above case.

The case to be mentioned next is also an example of asthma. This time, however, the syphilis was evidently hereditary. The patient was twenty-four years of age, and came to me from the country, through the recommendation of a former patient. His teeth were very characteristic of inherited syphilis. His father had suffered, as far back as my patient could remember, with scaly eruptions of the skin. There were no brothers or sisters, so that additional information from this source was impossible. The most careful investigation gave no suspicion that the young man had contracted syphilis during his lifetime, while the circumstances just mentioned regarding his teeth, and the skin disease of his father, strongly favored the belief of its hereditary nature.

One day in July, while very warm, working in the hay-field he was caught in a shower, and suffered most severely from bronchitis for about a week, when the asthmatic breathing came on. After this had existed for four months, to such an extent that he had only been able to lie in bed some two or three nights, he came to me. At this interview I gathered the above information regarding himself and his father.

During the four months previous to his consulting me, he had been variously treated for asthma, and without success. Knowing that potassium iodide was useful in some cases of asthma, and suspecting syphilitic mischief to be going on in this case, he was at once put on large doses. The result was most gratifying. At my request, he secured for me copies of the prescriptions he had been using. They contained chloral, bromide, asafœtida, lobelia, belladonna, opium, grindelia, the smoking of stramonium leaves, and the burning of nitre paper. From these remedies he derived only temporary benefit.

Here, again, we have pretty strong evidence that the asthma was in some way dependent upon the syphilitic taint. The probability is that, when the bronchial inflammation took place, the irritation from this caused the disease to become manifest in the lungs in somewhat the same way that an injury to a syphilitic may be recovered from very slowly, the tissues of the body not being in a good state of nutrition.

Another experience which set me thinking on the possible connection between inherited syphilis and phthisis came under my notice lately. One night I was sent for to attend a woman in confinement. It proved to be her fourth child. She had had no miscarriages. After the child was born, the mother began telling me the story of her misfortunes with her former children. She informed me that they had all died quite young—one three months, one five months, and the other nearly a year old. She also said that they all appeared to die in decline. They began coughing, and gradually emaciated away. I could find no special evidence of syphilis in either parent, as far as the mother could answer my questions. Her sister died in decline; but, further than this, I could trace nothing.

This child, like the others, soon began to show signs of failing health. Not knowing what to do, and being anxious to make some attempt, the mother was ordered perchloride of mercury, gr. $\frac{1}{12}$ three times a day; and the child, pot. iodidi, gr. $\frac{1}{4}$ twice a day. This was purely tentative treatment, yet it turned out to be a good experiment. The mother's own health has improved very materially. The child has done well ever since, is now between seven and eight months, and there is not the slightest appearance of its being attacked by any wasting disease.

Now, in this case, we have two or three valuable lessons to learn. In the first place, the child's aunt died of what was called consumption. There would, therefore, seem as if there was a tendency of some kind to pulmonary disease in the family on the mother's side. This tendency may have been transmitted to the children of the person I attended. In the second place, however, we have the very interesting fact that the child just mentioned recovered under antisyphilitic treatment, through the milk of the mother and directly to itself. Now, consumption is not amenable to such remedies The only conclusion then is, that, whatever the tendencies of the family may have been to phthisis, the real cause

of it in this case was some concealed syphilitic taint. In the last place, had the syphilitic condition been a little weaker, as it might have been, these children could possibly have escaped it, and developed and strengthened the tendency to phthisis; so that, in the event of their reaching maturity and having children, these latter would only show this phase of the hereditary dyscrasia. Thus, it seems to me, that the syphilitic condition gradually weakens; while the unhealthy tissue state arising out of this, and in some cases being mainly marked in the lungs, becomes the *fons et origo* phthisis. This view does not in the least clash with the doctrine of the bacillus tuberculosis. The teachings of some of our best observers, including Austin Flint, Sr., is to the effect that there must be a susceptibility to the bacilli in such persons as become consumptive. This susceptibility can come from any cause producing malnutrition, and I think that there is none more likely to cause this malnutrition of tissues than neglected syphilis.

I have now to give the history of a family that has been under my notice for more than three years, and during this period I have had a great deal to do with the children, four boys in all. These boys ranged in age from eighteen months to seven years at the time I commenced attending them. I do not think I ever knew a family of children more subject to bronchitis than these boys. From time to time they would take fresh attacks, and it was an exceptional occurrence to find them all free at any one time. Their attacks were of a somewhat mild, yet chronic character.

Neither the father nor the mother of these children was liable to colds or coughs. The father's brother had died of consumption, and the mother's father of pneumonia. With these two exceptions, the family record was good on both sides, as far as any form of pulmonary disease was concerned.

After I had been attending the family for about two years, the father asked me one day if syphilis could be completely removed from the system. From this, as a starting-point, we had a lengthy talk upon this disease, during which he admitted that he had had it many years before he was married, and that he had taken medicine for a year, though not very regularly.

On my finding this out, the children were treated with mercury and iodides, and with the very best of results. They soon recovered from their tendency to contract bronchitis, and improved in general appearance. The mother said to me one day that the last medicine was what did it, as they all got well after it was ordered.

One more remark in conclusion. I strongly believe that the low state of health which often leads up to consumption is, in not a few cases, due to inherited syphilis. This is the blighting cause that undermines the general condition of body nutrition, which so often precedes phthisis. The late Dr. Gross taught that scrofulosis was often a run-out syphilis, or this taint became weakened by passing through several generations. Just so I think with a certain percentage of tubercular cases.

The proportion of consumptive cases that are due to syphilis, I cannot in the least say, as my statistics are not sufficiently extended. This would require a long series of cases, and much time. Nor do I know the percentage of those chronic lung diseases, due to syphilis, that would yield to specific treatment. There is no doubt of the fact that many such cases, like syphilitic lesions elsewhere, would recover; while, at the same time others would not. For example, where the syphilitic taint is remote, it might so act as to produce only a predisposition; and the phthisis, being excited into existence by such conditions as we know to give rise to it, might be incurable The more recent the syphilis, the more likely would treatment, directed toward it, be successful in arresting pulmonary disease that might have arisen from it. On the other hand, the syphilitic taint coming from a grandparent would show itself in little else than a mere cachexia. On this cachexia, true tuberculosis or other chronic lung disease being implanted, the prospects of treatment would be very much less promising, as it would approach more nearly a case of phthisis, and less one of syphilis.

MEDICAL PROGRESS.

RESECTION OF RIBS FOR PYOPERICARDIUM.—At a late meeting of the Verein Deutsch. Aerzte in Prag, PROF. GUSSENBAUER exhibited a boy, 13 years old, in whom he had evacuated by thoracotomy the fluid of a pyopericarditis accompanying an acute osteomyelitis. The operation was successful, and the boy entirely recovered. The osteomyelitis resulted from a fall upon the right shoulder, which was followed by local pain and high fever, with great swelling of the shoulder and adjacent parts. A diagnosis of osteomyelitis was shortly made; and on the 3d of May, fourteen days after the accident, the boy was operated upon. An incision at the infraspinous fossa was made, and was followed by the escape of pus, and the bone presented a grayish appearance. The operation was done with antiseptic precautions. The temperature did not fall as expected, but rose, without any apparent cause.

On the 20th of May, fluid was discovered in the left thorax, the heart was not noticeably displaced, and the intercostal spaces not obliterated. At first, a left-sided pleurisy was suspected, and an exploratory puncture showed a puriform exudation. The patient at last becoming cyanotic, an operation was decided upon, and five ribs were resected. It was then noticed that the intrathoracic fascia was not thickened, and further examination showed the effusion to be pericardial. The pericardium was then fixed to the edges of the wound to prevent escape of the fluid, on its evacuation, into the pleural cavity. During the operation, the heart could be seen, and felt palpitating. The pericardium, after the withdrawal of the purulent contents, was washed out with a thymol solution. The following day, there was marked improvement, the temperature fell at once, and complete restoration soon followed.—*Wien. med. Wochenschr.*, Nov. 21, 1884.

EXPERIMENTAL THYROIDECTOMY.—Whilst the subject of the relations of the thyroid gland to myxœdema and allied affections is attracting so much attention both at home and abroad, it will be useful to give an abstract of the results of a series of experiment per-

formed by Schiff, who is one of the foremost workers in this field of inquiry. All the animals from which the thyroid gland had been removed died within from four to twenty-seven days after the operation; and those animals that survived more than sixteen days died after the wound had completely healed. Somnolence and indifference, slowness and hesitation of volitional movements, fibrillar contractions of the muscles, alteration of the respiratory rhythm (so-called *respiration cardiaque*), sensations of itching of the skin, and diminution or disappearance of tactile sensation, were the chief phenomena observed. The excitable area of the brain did not react to the most powerful galvanic stimulation. As death approached, the arterial blood-pressure underwent an extraordinary fall, owing to the dilatation of bloodvessels. The muscular tremors disappeared on section of the motor nerves supplying the affected muscles. The symptoms observed in different animals varied considerably. Schiff has concluded that the thyroid gland exercises a great influence over the nutrition of the central nervous system.—*Lancet*, Dec. 13, 1884.

Hydrocele in Women.—Hennig, in *Centralbl. f. Gyn.*, October, 1884, remarks that hydrocele in women is a rare disease, and that but thirty-nine cases have been reported. It is observed at all ages, but most frequently in women who have borne children. Ordinarily, it exists without pain. At first the tumor is small, and disappears upon lying down. Scarcely any fever is produced, except when the tumor is inflamed.

The treatment consists in reducing the tumor, and maintaining the reduction by a bandage till the canal is closed by adhesion. In two cases, cure was obtained by simple puncture; in another, by injection of iodine. Good results were obtained also by passing an iron wire through the tumor, and tightening it till the walls are in apposition.

Treatment of Urticaria by Jaborandi.—M. Guéneau de Mussy has treated urticaria in arthritic subjects successfully with jaborandi. The mode of administration was: powder of jaborandi, extract of guaiac, āā gr. iss, benzoate of lithia three grs., in one pill. Two pills were at first given in twenty-four hours, and the number increased to four. The treatment was continued many months. Improvement was prompt.—*Revue de Thérapeutique*, Dec. 15, 1884.

Modification of Schede's Empyema Operation.—Dr. Otto Sprengel reports (*Archiv für klin. Chir.*, Bd. xxx. S. 618) the following modification of Schede's operation for empyema. (It will be remembered that Schede resects a piece from the thoracic wall, making a trough-shaped opening through which the pleural cavity may be washed out.) Sprengel resects two ribs to the extent of several centimetres, scrapes out and disinfects the pleural cavity, and tampons it with an antiseptic dressing until the cavity is filled by granulations, and is thus soon contracted.—*Centralbl. f. d. med Wissensch.*, Oct. 25, 1884.

Lesions of the Nervous System Etiologically Related to Cutaneous Disease.—Dr. H. Radcliffe Crocker, in a learned article on this subject, which appears in the October number of *Brain*, deduces the following conclusions:

That less serious consequences ensue from cutting off the nervous supply than from irritant or inflammatory lesions of the parts of the nervous system that affect the skin.

That the kind of eruption produced by the nervous system varies greatly, often without any evident reason, when the nervous defect is apparently the same in place and kind.

That the same eruption may owe its origin to any defective link in the nervous chain from the centre to the periphery.

That the same kind of nervous lesion that at one time appears to excite an eruption or other nutritive defect in the skin, even more frequently produces no change in the skin whatever.

The lesions other than atrophy that result when innervation is abolished are often traceable to external injurious influences which the tissues, when unprotected by the nervous system, are unable to resist; but we know nothing of the conditions that determine the nature of the eruption or other skin defect when the nerve lesion is irritative, nor what it is that determines whether there shall be any eruption, or none at all. This uncertainty of effect suggests that the nervous influence is an indirect one.

The cerebral effect appears to vary according to whether its control over the vaso-motor centre is increased or decreased and to the secondary changes it induces in the cord. No localizing lesions have yet been found for its influence on the vaso-motor centre.

In the spinal cord the fibres that preside over the nutrition of the skin are bound up with the sensory fibres, and reside, therefore, mainly in the posterior columns.

That outside the cord the path is by the posterior roots, the spinal ganglia, and the sensory fibres, and that lesions of any one or more of these may lead to changes in the skin.

The Comma-bacillus of Cholera.—In the stools of nine cases, examined during the recent epidemic, M. Babès found, in the mucous membrane of the ileum, comma-bacilli in nearly all, and cultivated them according to Koch's method slightly modified. Instead of agitating the fecal matter taken from the intestine with gelatine, liquefied by heat, he began by agitating it with sterilized distilled water, and then cultivated a drop of this water upon a plaque of gelatine. This method can be advantageously combined with that indicated by Koch.

M. Babès sought without success for the comma-bacillus in other organs than the intestine. However, in one case, he cultivated a tube containing a portion of the kidney taken from a cholera patient, and obtained the comma-bacillus. As this case is unique, and is not confirmed by other experiments, he suspects it was due to some oversight, and believes it does not invalidate the results of former experiments.—*Le Progrès Medicale*, December 6, 1884.

The New Operations for Cæsarean Section.—In an interesting paper in the *Deutsche med. Wochensch.*, December 18, 1884, Volkmann reviews the different

operations for Cæsarean section, and makes the following practical suggestions as to the method to be selected:

1. The old method of Cæsarean section, whether upon the dying or dead woman, must be performed according to the established principles, when the end to be attained is the speedy delivery of the child.

2. Cæsarean section with the peritoneum included in the suture (the modified Sänger's method) should be performed according to the relative indications—*i. e.*, if the woman does not wish to be deprived of the power to conceive, or, if it is called for, in cases of deformity, carcinoma of the cervix, etc.

3. Porro's operation is recommended in all cases of osteomalacia, and marked contraction of the pelvis, and also when a second operation would be required should pregnancy again occur. It is also required in cases of incurable tumors.

Muslin Ointments in the Treatment of Diseases of the Skin.—In an instructive article in the *British Medical Journal* for December 20, 1884, on certain new methods in the treatment of diseases of the skin, Dr. George Thin maintains that there is no doubt that the unsatisfactory results of much of the treatment of eczema by ointments is due to the difficulty which is experienced in getting the affected skin well covered with the unctuous application which is prescribed. To overcome this difficulty, Unna conceived the idea of incorporating stout unstarched muslin with a thick layer of ointment. As a basis for the ointment, mutton-fat seemed to him to be the most useful. This muslin ointment, when closely applied and bound on the skin, secures, in Unna's words, "absolute rest to the integument, prevents rubbing by clothes, and excludes the atmospheric air." These muslin ointments are prepared spread on one or both sides of the muslin, and consist of a large variety—amongst them being representatives of nearly all the ointments that are in use in the treatment of skin diseases. To their great utility, Dr. Thin strongly testifies.

As, so far as he knows, muslin ointments are at present only made in Hamburg, and patients cannot get them without incurring delay and trouble, he has not prescribed them in many cases in which he should have otherwise done so. In cases, however, in which the expected benefit from ordinary ointments was not derived, he has found the muslin ointments, supplied by Beiersdorf, successful. For example, in the case of a young boy who was afflicted with frequent outbreaks of papular and pustular eczema over large portions of the body, necessitating the frequent use of soothing ointments, the difficulty of keeping zinc ointment properly in contact with so large an extent of surface, in the active and restless patient, was found to be a great drawback, and the result of the treatment was consequently unsatisfactory. He thought of Beiersdorf's muslin-zinc-ointment, and its application was not only found simple and convenient by his nurse, but healed the eczematous eruption much more rapidly than had been the case when ordinary zinc ointment had been applied in the usual way. This better result was no doubt due simply to the fact that the muslin ointment afforded a more complete covering to the skin than zinc ointment did when it was spread on lint or linen by the nurse. The physical consistence of these muslin ointments surpasses in applicability that of any ointment spread for the occasion on cloth.

The Application of Cocaine to Diseases of the Ear and Nose.—Prof. Zaufal, at a late meeting of the Verein Deutscher Aerzte, in Prag, reported the results which he had obtained from the use of three and five per cent. solutions of cocaine for anæsthetic purposes. Applied to the walls of the nose, it exercises a prompt anæsthetic effect.

In chronic nasal catarrh, he was able to operate with the galvano-cautery without pain to the patient. In the application of cocaine to adenoid vegetations of the nasopharyngeal cavity, favorable results are also anticipated, and likewise for the anæsthesia of the external auditory canal. It was observed that the epidermis and underlying adipose tissue of the canal impeded the action of the cocaine. True anæsthesia of the tympanic membrane was produced, and in two cases granulations of the middle ear were removed without pain.

Prof. Ganghofner reported success with a fifteen to twenty per cent. solution of cocaine in intralaryngeal spasm.

Prof. Kahler likewise obtained from its use good results in a hysterical woman suffering with vomiting of pregnancy.—*Wiener Med. Presse*, Nov. 30, 1884.

Resorcine in Intermittent Fevers.—In an elaborate memoir upon this drug, Dr. Vittorio Gasparetti presents the following conclusions:

In twenty-five cases of intermittent fever of various types, twenty-three were cured, and two benefited. It does not always at once prevent the attacks, but in a short time they cease to appear under its administration. The spleen does not appear to be affected by the drug. Disturbances of innervation, which sometimes occur, are rare, except in toxic doses. In these cases, no bad effects worthy of notice were observed.

Resorcine is eliminated by the kidneys, but does not disturb their function. Its beneficial action is more pronounced in the quotidian and tertian types, less decided in the quartan. In this form, it frequently fails to produce results. It satisfactorily replaces quinia in action, cost, and taste, and is very acceptable to children, and is valuable as an anti-ferment in catarrh of the digestive tract. Its average per cent. of cures is greater than that of any other antiperiodic. Its action is very prompt, owing to its rapid absorption.

Gilberti observed that a single dose which reduced the temperature 3.7° F., when given in divided doses at intervals of ten or fifteen minutes, produced changes of only a few tenths of a degree. The dose for an adult is thirty grains in an ounce of water, to be taken in divided doses in one hour, and about an hour previous to the time the fever is expected. A large, is no more efficacious than a moderate dose. Whether the hæmoglobin is increased by its use has not yet been determined.—*Gazetta Medica di Torino*, Dec. 15, 1884.

Diagnosis of Gastric Disease.—Methods have been adopted from time to time with a view of determining the digestive activity of the gastric juice outside the body. Van der Velden elaborated a method for carrying out this plan by getting patients to swallow a dry sponge enveloped in a gelatinized capsule. Leube used

to wash out the stomach with about 300 cubic centimetres of iced water. Recently M. Beaumetz has adopted the principle of aspiration in order to obtain some gastric juice. There appears to be no need for the practical physician to acquaint himself with the details of the procedure nor with the minutiæ of the apparatus concerned. Van der Velden said that in cancer of the stomach the secretion from this organ contained no hydrochloric acid, and thus believed that an easy way was open for us to distinguish between cancer and other chronic gastric disorders. Leube concluded that the degree of acidity of the gastric juice would give us some idea of the degree of the dyspepsia, and he drew no other conclusion from his careful study of the subject. A certain coloring matter derived from coal tar, and known as orange-poirier No. 4 or tropeoline, undergoes a change to a clear violet-red tint when a one per cent. solution is brought in contact with muriatic acid, whilst it does not lose the yellow tint with lactic and other acids. This tropeoline has been employed in testing the condition of the gastric juice. The above information is interesting, but as yet cannot be said to possess any value for clinical medicine.—*Lancet*, December 13, 1884.

NEW INTERPRETATION OF THE MENSTRUAL PROCESS.—LOEWENTHAL, in an article upon this subject which appears in the *Arch. f. Gyn.*, xxiv., 1884, cites the different opinions of authors upon the relations which exist between ovulation and the menstrual flux, and gives a complete résumé of our knowledge on this subject.

According to Loewenthal, the periodic flow occurring in menstruation is not due to the rupture of the Graafian follicle, although the two phenomena, for the most part, coincide. The hemorrhage is due to an elimination from, or contraction of, the mucous membrane, which at this period is considerably thickened. This menstrual change is caused by the presence of an ovule previously expelled from the ovary.

If the ovule is fecundated, the changes result in phenomena of the sickness of pregnancy. Coincidence between the rupture of the follicle and the menstrual flow does not necessarily exist. They may be separately produced, the rupture of a follicle taking place without change in the uterine mucous membrane and flow of blood. The periodicity of the appearance of the menses is in relation with the non-fecundated ovum lodged in the uterine mucous membrane. The differences observed in this periodicity are due to various causes, specific or general, which influence the vitality of the ovum.

Fecundation usually takes place in the uterus, rarely elsewhere. A fecundated ovum is expelled from the ovary, usually soon after a menstrual period.—*Gazette Médical de Paris*, Dec. 20, 1884.

A CASE OF VAGINISMUS TREATED WITH HYDROCHLORATE OF COCAINE.—DUJARDIN BEAUMETZ reports, in the *Bull. Gén. de Thérap.*, Dec. 15, 1884, a case of vaginismus treated with hydrochlorate of cocaine with good effect. The patient was married, and showed no signs of hysteria. At first during conjugal intercourse no pain was experienced. Some years subsequently she gave birth to a child after tedious labor. A few months after convalescence sexual intercourse became extremely painful, and for two years was impossible. Examination revealed the fact that extreme pain resulted from digital touch, and a contractile band within the vagina resisted the introduction of the finger. Forcible dilatation under chloroform failed to produce good results, as likewise did mild dilatation by the bivalve speculum. Finally hydrochlorate of cocaine was applied in two per cent. solution to the labia minora and orifice of the vagina. Within a minute sensibility disappeared, and the speculum was introduced without pain.

Two days subsequently the speculum was introduced without previous application of the cocaine, and produced but slight pain. After four applications of the anæsthetic, pain on introducing the speculum was almost entirely absent, and the band which constricted the vagina had disappeared.

BEAUMETZ pronounces, as the result of numerous observations, cocaine hydrochlorate to be also the best therapeutic agent in vaginismus due to inflammation and ulceration of the vulvar orifice.

OPERATIVE TREATMENT OF PRURITUS VULVÆ.—SCHRÖDER maintains that in cases of pruritus vulvæ which have long resisted treatment, operative interference is necessary, and in the cases which he cites benefit has never failed to result from it. The condition which indicates the operation is—pruritus upon circumscribed, contracted spots, which project above the level of the skin, and are of a whitish color. The operation consists in excising the tissues as far as the diseased condition extends and bringing the sound parts into apposition. This procedure is rarely required, four cases only having so far been met.

In a condition analogous to that already described, existing in unmarried women, there was a remarkable degeneration of the skin surrounding the anus, simulating but not identical with pruritus. In this case an annular excision of the skin around the whole circumference of the anus was made. It was at first thought a cure had been effected, but later the disease returned. —*Centralbl. für Gynakol.*, Dec. 13, 1884.

BACTERIA IN ULCERATIVE ENDOCARDITIS.—M. CORNIL, in the *Journ. des Connaiss. Méd.*, Dec. 22, 1884, discussing the origin of these bacteria, holds that in the various febrile diseases, puerperal fever, pyæmia, septicæmia, and in traumatic inflammations, the lymphatic cells or white blood-corpuscles contain these bacteria under the form of cocci, isolated or in chains. These cells are carried in the blood current throughout the system and are deposited at various points, among which are the valves of the heart, which, by reason of their alternate contraction and relaxation, are favorite seats of deposit. Thus ulcerative endocarditis is produced in erysipelas and pneumonia.

Koster, however, believes that the microbes reach the valves through their nutrient capillaries.

In the opinion of Cornil, this view is untenable, inasmuch as the bacilli are found only on the surface, not in the tissue of the valves, which would be the result if they were deposited by the nutrient capillary vessels.—*L'Abeille Médical*, Dec. 22, 1884.

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SATURDAY, JANUARY 17, 1885.

IS TUBERCULOSIS PRODUCED BY THE INOCULATION OF INDIFFERENT SUBSTANCES?

THE publication in 1866 of the results of Villeman's experiments upon the inoculation of tuberculosis, was soon followed by the enunciation of the doctrine that tubercle can also be produced by the inoculation of indifferent substances, such as inspissated pus, dried blood, fragments of cheese, particles of glass—in fact, indifferent substances of any kind. The supporters of this doctrine included at one time some of the most authoritative names in pathology, notably Cohnheim, Waldenburg, Burdon-Sanderson, and Wilson Fox. Cohnheim was the first to leave the ranks. In repeating his experiments, he arrived at different results, and concluded that tubercle could only be produced by the inoculation of true tubercle. The change of view of such a well-known and skilful experimenter naturally carried with it many who were satisfied to pin their faith upon his opinion. Then followed the very careful experiments of Koch, who insisted that not only must the material be tubercular, but that the inoculation to be successful must contain the tubercle bacillus. These researches caused Wilson Fox to repeat his experiments, and the negative results he obtained led him also to renounce his original views. Thus another strong prop was withdrawn.

We have more than once called attention to the importance of this question as bearing upon the infectious nature of tuberculosis, and especially its origin in a fungus. Granted that indifferent substances, like powdered glass and ultramarine blue, may produce tuberculosis by their inoculation, the bacillus tuberculosis may be classified among such substances, and produce the disease in the same manner. If, on the other hand, it be shown that the inoculation of indifferent material is incapable of producing tuberculosis, the only remaining obstacle to the acceptance of the parasitic origin of tubercular phthisis is removed.

The announcement, therefore, of the results of the carefully conducted experiments of DR. STERNBERG, in *The American Journal of the Medical Sciences* for January, 1885, is an important one in this connection. The experiments consisted in the injection of ultramarine blue into the peritoneal cavities of two rabbits, and of powdered glass into those of two others. The injections were made in the laboratory of the Johns Hopkins University at Baltimore, with material furnished by Dr. Formad, of Philadelphia, who was present, and who determined also the quantities to be used. In the afternoon of the same day, in the country eight miles from Baltimore, eight more rabbits were similarly injected, four with blue and four with glass The rabbits operated upon in the city were placed in an apartment adjoining another in which were rabbits inoculated with sputum containing the tubercle bacillus, the object being to test the question whether association with tubercular animals would make a difference in the result.

One of the four rabbits operated upon at the laboratory was evidently in poor health, and died the next day. Another died four days later, probably from injury to the intestine during the operation. Another of the laboratory rabbits died twenty-eight days later, and at the autopsy Dr. Councilman found the blue pigment, in large quantity, in the cavity of the abdomen, free and encapsuled, and in the lymphatic vessels of the diaphragm in such quantity as to give them the appearance of having been artificially injected. One rabbit injected with the blue died in the country nine days after the operation, and one injected with glass thirty-six days after being operated on. Of the remainder, two were killed forty-one days after being operated upon, one having been injected with the blue pigment, and one with glass. Neither of these presented any evidences of tuberculosis, and the others were allowed to live a month longer.

All the animals were examined after death by Dr. Councilman, of Baltimore, who found that the pathological changes differed somewhat in those injected with blue and in those injected with glass, the evidences of local inflammation being more decided and adhesions more numerous in the latter. Numerous nodules were found in both, varying in size from the head of a pin to that of a bean, being pigmented in the case of the blue, and pure white in that of the glass. They were found upon the peritoneal surface and on the liver. The nodules in the case of the glass injections most closely resembled tubercles.

They were of a whitish color, and on section a soft mass could be squeezed out of them which could be easily crushed between the fingers, and on a superficial microscopic examination might have been taken for a caseous mass. But more careful microscopic examination set all doubts at rest. The large nodules were composed of masses of glass enclosed in vascular connective tissue, which also penetrated between the glass, dividing it into small areas. The smaller nodules were found where only a small amount of glass was present. But a few cells were found commingled with the glass, and sometimes a slight nuclear increase was found around one or two bits of glass, at others the glass was enclosed in a small mass of connective tissue very rich in cells. At no place was any glass taken up in the tissue or lymphatics, in striking contrast to what was found where the blue injection was used. In no instance was any true caseation found, and there were no nodules which had even the anatomical structure of tubercles—the so-called pseudo-tubercles.

The rabbits which had been injected with tuberculous sputum in the course of the experiments, were examined, and typical tuberculosis was found to have been produced in two. There was a large caseous mass at the point of injection, the axillary glands were caseous, and there were innumerable caseous nodules on the lungs, liver, and elsewhere. In one there was no caseation at the point of injection, nor were the lymphatic glands affected, but the lungs contained numerous grayish, transparent nodules, some single and some conglomerate. Tubercle bacilli were found in every instance, in the nodules in the internal organs, the caseous mass at the point of injection, and in the cheesy lymphatic glands.

These observations appear to us the most important yet published in this country, and go a great way towards confirming Koch's doctrine.

Dr. Sternberg also published in the same article a letter from Dr. James E. Reeves, of Wheeling, W. Va., describing the clinical history and macroscopic post-mortem appearances in the so-called "nailers' consumption." In consequence of the late date at which Dr. Reeves's letter was received it was impossible for Dr. Sternberg to give the subject much consideration, but we hope he has not dismissed it finally with the statement that it "is evidently not tubercular." For although Dr. Sternberg's experiments tend to weaken much the grounds of the belief which has been very general until lately, at least, that "nailers' consumption" is a variety of phthisis pulmonalis, they do unquestionably present a clinical history which is that of many cases of true tubercular phthisis, and the importance of the subject demands a closer minute investigation. It is true that Dr. Reeves, who is very successful in demonstrating tubercle bacilli, failed to find any in the sputum of a large number of these cases which he examined, but to say that they are not tubercular for this reason is, as yet, begging the question. There were fibrous (?) nodules, dilated bronchi, and enlarged glands which should be carefully studied before a conclusion is reached. "Now and then," says Dr. Reeves, "a case is met with in which the lungs are the seat of tuberculosis; but in such instances, I doubt not, the family history, if questioned, will show tuberculous tendency."

This class of cases, including the phthisis of grindstone workers, steel grinders, file makers, and miners, has not yet been thoroughly studied. Science is exacting, and many still believe these forms to be tubercular, and will continue so to believe, until exact methods are brought to bear to remove all grounds of such belief.

EXTIRPATION OF THE BLADDER FOR SARCOMA.

DURING the past two years several papers have appeared in the German medical journals in which, through experiments upon dogs, it was shown that the urinary bladder might be successfully removed. As the natural sequence of these vivisections, we have now to record the extension of the operation to the human subject by SONNENBURG, of Berlin, which is fully described in the *Berliner klinische Wochenschrift*, No. 52, 1884.

The patient was a woman, 60 years of age, on the anterior wall of whose bladder digital exploration disclosed what appeared to be a circumscribed, non-ulcerated carcinoma. As the suffering was great, and as she was losing much blood, it was determined to remove the tumor along with the adjacent tissues of the bladder, and close the wound with sutures. The organ having been opened as in epicystotomy, it was discovered that the limits of the neoplasm were not sharply circumscribed, so that for its complete removal the entire viscus, except a small portion of its posterior wall, the trigone with the openings of the ureters, and the sphincter, was excised. During the operation the peritoneal cavity was freely opened, but the edges of the wound in that membrane were carefully brought together with sutures. Drainage-tubes were brought through the urethra and the abdominal incision, thereby providing for the thorough escape of the urine and the secretions of the wound, and, at the expiration of three weeks, the patient was progressing satisfactorily, the wound was granulating nicely, and there was every prospect of ultimate recovery.

The case thus briefly recorded shows that the greater portion of the urinary bladder may be extirpated with a fair prospect of temporary success. In view, however, of the probable recurrence of the disease, and of the immediate risks to which the aged patient was subjected, we cannot congratulate

the operator upon his daring performance—a performance which may, in the opinion of some surgeons, redound to his credit, but which we regard as being utterly unjustifiable. There is a limit to operative procedures in malignant disease, and surely the limit was reached in this case, the infiltration of the walls of the bladder having progressed to an extent which should have suggested the establishment of a vesico-vaginal fistula, to provide for the free escape of urine, and thereby to do away with the periodical filling and emptying of the bladder, rather than the harsh procedure to which Sonnenburg resorted. Colpocystotomy and the formation of a permanent fistule would certainly have mitigated the suffering and arrested, partially, at least, the bleeding. To fulfil these indications should have been the aim of operative interference; to have extirpated nearly the entire bladder was as useless as it was unsurgical.

REMOVAL OF A BRAIN TUMOR.

FERRIER'S forecast, made about a year ago, that the doctrine of cerebral localization would in the future have an extensive surgical application, has been fulfilled in a recent case at the Hospital for Epilepsy and Paralysis, London. A man, aged 25, consulted Dr. Hughes Bennett for paralysis of the left arm. Four years previous he had received a blow on the left side of the head. A year after, twitching began in the tongue and left side of the face, which soon became worse, occurred paroxysmally, and he had "fits," general convulsions, and loss of consciousness. Ultimately, the arm became quite useless for finger and wrist movements; the left leg also began to get weak. There was double optic neuritis. A diagnosis was made of tumor of the cortex involving the centre of the hand, and irritating the face and leg centres. Dr. Bennett suggested its removal. On November 15th this was done by Mr. Godlee, of University College, who trephined over the upper part of the fissure of Rolando. When the cortex was exposed, no tumor could be seen, but the ascending frontal convolution was distended. An incision was made into it, and at a quarter of an inch below the surface a hard glioma the size of a walnut was found and removed. Twenty days after the operation the condition of the patient was most satisfactory; the vomiting, pains, and convulsions had ceased, but there was a tendency to hernia of the brain substance and paresis of the leg had increased. On the morning of December 16, more unfavorable symptoms set in, rigor, fever, sickness, and pain in the head, and the hernia of brain-substance increased. He gradually sank and died on the 23d, consciousness remaining until the end. The post-mortem showed death to have been due to meningitis.

It is a matter for general regret that this case, in which medical and surgical skill were so conspicuously displayed, did not reach a successful termination. Still, we should not be discouraged. It illustrates, however, the dangers of cerebral surgery in man, and shows the difference between the Simian and human brain as regards the freedom from reaction after operative measures. Ferrier and others speak of "the unfailing safety, the freedom from all untoward results," in the case of the former, but there are grave risks to be incurred in the latter. If success is to be obtained, it is just in these cases of Jacksonian epilepsy that we may expect good results, for the localization can be made with tolerable accuracy, and the lesions are often limited. The case reported by Dr. Osler in the January number of the *American Journal of the Medical Sciences*, of cortical epilepsy of twelve years' duration, due to a small glioma not larger than an almond, is an instance in which an operation would have been justifiable and possibly have been the means of saving life.

PULMONARY SYPHILIS.

IF we are to credit the clinical reports, syphilis of the lungs is a tolerably common affection; on the other hand, in the post-mortem room it is among the rarest of anatomical lesions, so much so, indeed, that men of large experience have seen but one or two specimens. There is a well-recognized syphilitic pneumonia in the new-born, and in the adult, gummata of large size have been found; but with the exception of these two conditions our knowledge of pulmonary syphilis is extremely limited. Areas of fibroid induration about the hilus or beneath the pleura are supposed by many to be syphilitic, and may be in some cases, but they occur also in persons without any specific taint. Grandidier states that the affection is most common in the middle lobe of the right lung; Pancritus, that the parts about the hilus are most often involved. The process is confined to the interstitial tissue, and is at first a small-celled growth, which is gradually converted into fibrous tissue and a form of cirrhosis is induced. Caseation may occur with softening and the production of syphilitic phthisis. It does seem probable that some of the cases of cirrhosis of the lung have a syphilitic origin.

What now is the clinical evidence upon which a diagnosis of lung syphilis is usually based? First, the existence of the acquired or inherited disease. This is all important. Second, the beneficial effect of mercury and iodide of potassium. The history and the treatment are deemed sufficient as in the series of cases reported elsewhere in this issue. The history even may be very imperfect; thus as the ten

cases of pulmonary trouble due to inherited syphilis there given, in only one is it stated that there were other signs of the disease such as we can often discover in these subjects, leaving us to conclude that in nine the lungs were alone attacked; that is to say, such an extremely rare tertiary manifestation as pulmonary syphilis occurred in nine instances without, so far as we know from the records, any previous specific symptoms.

The form of cirrhosis of the lung due to syphilis has certain clinical features of some distinctness. Thus, the fever is slight or absent, the central part of the lung, particularly the middle lobe in the right, is most often attacked, and there may be irregular areas of percussion dulness. The cough is usually dry, the sputum small in amount, often bloody, and the specific tubercle bacilli are absent. These cases generally come under observation when antisyphilitic measures are useless for curative purposes.

A possible important diagnostic sign may be afforded in the discovery by Lustgarten, of bacilli peculiar to syphilitic lesions, and following close upon the announcement of this discovery Kœniger, in *Deutsche medicinische Wochenschrift*, narrates briefly six cases of chronic phthisis in which there were no tubercle bacilli, but peculiar forms resembling somewhat those of Lustgarten. In four of these cases there was a well-marked history of syphilis. We may possibly have here a means whereby syphilitic lung affections can be accurately diagnosticated; if so, it will be a great boon. At present the cases are distributed in a curiously irregular way among practitioners, some having had a great number (Pancritus, of Berlin, for example, who had over one hundred cases), others rarely having seen an instance in a long experience, a fact which, taken in connection with the *post hoc* therapeutical deductions, so important an element in the diagnosis, should make us particularly careful in our estimation of reports of pulmonary syphilis.

IS WOMAN WOMB-MAN?

Van Helmont is to be credited with the statement: *Propter solum uterum mulier est quod est.* But really he simply threw into a different form an axiom of Hippocrates. The progress of knowledge as to the physiology of the female sexual organs destroyed the force of his assertion as well as that of the axiom of Hippocrates. Chereau, writing in 1844, observed that in place of describing the ovaries and oviducts as appendages of the womb, it is more rational and more philosophic to say that this last viscus is added or annexed to the ovaries or oviducts. Somewhat less than a score of years later, Tilt, probably taking the motto from Chereau, said, "*Propter ovaria sola mulier est quod est.*"

So much for the first statements as to the relative importance, as held at different times, of the organs referred to. But was there a time when our language sought to express in the name given the human female the supposed predominance in her nature of the uterus—in a word, is woman womb-man? This suggestion of the origin of the word woman is quite fanciful and altogether modern. Let any one of critical mind turn to the Wiclif version of the New Testament, 1380, and read that part of the parable of the Prodigal Son where the King James version states "he would fain have filled his belly with the husks the swine did eat," and he will find "his wombe" is used for "his belly." Here was a womb-man, but no one can suppose he was a woman. Womb, or wombe, was used at first for belly, and not for a sexual organ peculiar to the female, while at the same period the word woman was already in use.

To our statement of the incorrect derivation of the word woman from womb, we add the following note as to the true origin of this word from one of the most distinguished and learned philologists in our country, Prof. March, of Easton, Pa.:

"*Woman* is an Anglo-Saxon *wif-man*, like German *weibs-mensch*, Latin *femina-homo*, *wif*-wife, being in Anglo-Saxon, a general word for female, and in this compound a sign of gender, in contrast with *waepen*, membrum virile, whence Anglo-Saxon *waep-man*, Latin *mas-homo; wifman* and *wepman*, for *woman* and *man* were in use almost to Chaucer's time; *wifman* changed to *wimman*, then to *wumman; woman* is a comparatively modern spelling, disguising both the etymology and pronunciation, as so much of our beloved modern spelling does."

FATTY INJECTIONS IN SALIVARY FISTULA.

In the *Abeille Médicale*, No. 51, 1884, M. Mollière, of Lyons, reports a case of salivary fistula cured by a novel procedure.

At the age of six years, when suffering from measles, a painful swelling appeared beneath the ear of a girl, which was incised, and gave vent to saliva, the flow being increased during mastication and by stimulating articles of food. Ten years subsequently, an unsuccessful attempt was made to close the opening by a plastic operation; and, a year later, when the patient came under the charge of Mollière, there was a small opening below and in front of the lobule of the ear, which communicated with a small duct given off by one of the lobules of the parotid gland.

Acting upon an experiment of Claude Bernard, who succeeded in destroying the secretory elements of the pancreas by injecting an oleaginous substance into the canal of Wirsungius, Mollière threw into the fistula about eight drops of carbolized oil, with-

out any apparent effect. Upon repeating the operation, however, six weeks subsequently, the affected lobule atrophied, and the fistula closed spontaneously.

As the parotid gland is not essential to life, Molliére recommends a resort to fatty injections in all cases of salivary fistulæ of the duct of Steno which have proved rebellious to other measures.

SOCIETY PROCEEDINGS.

PHILADELPHIA NEUROLOGICAL SOCIETY.

Stated Meeting, December 22, 1884.

THE VICE-PRESIDENT, CHARLES K. MILLS, M.D., IN THE CHAIR.

DR. MILLS read some

NOTES ON THE TREATMENT OF EPILEPSY.

His remarks applied chiefly to the medicinal treatment of epilepsy proper—grand mal, and petit mal. He did not intend to refer to the treatment of convulsive seizures due to tumors, meningitis, spinal disease, etc.

As to the curability of epilepsy, some apparently authentic cases of cure are on record. After looking over the subject, he could only recall seven cases of apparent or real cure in his own practice, private and hospital. In all of these the attacks remained away for from more than one to more than three years. Gowers mentions a number of cures, cases, at least, in which seizures had not recurred for as much as four, five, six, or seven years. Several of these cases were children. Three of the seven cases alluded to by Dr. Mills were children. All observations as to the cure of epilepsy were necessarily imperfect. After a number of years the attacks recur again. Although, however, the absolute curability of epilepsy might be doubtful, certainly great benefit from treatment is to be derived in most cases. It is a wrong to such patients not to treat them.

He had used the following remedies, singly, three or four times daily, in a series of cases, during the last ten years: Bromide of potassium, grs. x to ʒj; bromide of sodium, grs. x to ʒj; bromide of ammonium, grs. x to ʒss; monobromide of camphor, grs. iij to vj; hydrobromic acid, fʒss to fʒss; iodide of potassium, grs. v to ʒss; biborate of sodium, grs. xv to xx; chloral hydrate, grs. x to xv; oxide of zinc and valerianate of zinc, grs. iij to x; nitrate of silver, gr. ¼ to gr. ½; tincture of belladonna, ♏x to xv, or extract of belladonna, gr. ¼ to gr. ½; extract of cannabis indica, gr. ⅛ to gr. ¼; fluid extract of cocculus indicus, ♏j to iij, or tincture of cocculus indicus, ♏v to x; nitrate of potassium, grs. v to viij. Other remedies which he has only used in combination with some of the above drugs, are as follows: Conium juice, fʒj, or fluid extract, ♏iij to x; tincture of digitalis, ♏v to x; sulphate of strychnia, gr. $\frac{1}{40}$ to $\frac{1}{30}$; Fowler's solution of arsenic, ♏ij to v; fluid extract of ergot, fʒj to fʒij, or extract of ergot (Squibb's), grs. iij to vj; iron, cod-liver oil, and quinine.

The bromides are certainly the best remedies, and the bromide of potassium, in his opinion, stands at the head of the list. The bromide of sodium comes next in efficacy to the bromide of potassium. He thought the bromides affected the nerve centres directly. The mixed bromides are better, usually, than any one of them used singly.

The bromides are advantageously combined with other drugs. The combination which he had found, on the whole, the best for long-continued use, was bromide of potassium, grs. xv; bromide of sodium, grs. xv; solution of the arsenite of potassium (Fowler's solution), ♏ij; conium juice, fʒss, or the fluid extract of conium, ♏iij to v. This was generally made up with syrup of orange and some bitter infusion. Another good combination, mentioned also by Gowers, was the bromide of potassium and tincture of digitalis. It was only especially valuable in cases complicated with weak heart or mitral disease. Monobromide of camphor had no advantage over the bromides. Hydrobromic acid was efficient in very large doses, but so much water had to be given with it that the amount to be swallowed was appalling to the patient. It sometimes irritated the stomach. Borax was not of established value, but helped a few cases temporarily. He found the iodide of potassium, unless especially indicated, had little value when used alone in the treatment of epilepsy. Chloral hydrate is not of much value when given alone, but with the bromides, in cases uncomplicated with cardiac disease, sometimes makes a useful combination. Trousseau's belladonna treatment had been used without noteworthy success. Cannabis indica was not to be depended upon. He had tried cocculus indicus in six cases at the Philadelphia Hospital. None improved, and four were made worse by its use, one of the four becoming insane while taking the drug. At the request of Drs. Reichert and Hinsdale, he had used the nitrate of potassium in seven cases. Of these, only one seemed to be benefited, and some were made worse by its use. When the bromides had to be stopped, the zinc salts or the nitrate of silver were the best substitutes; but they could only be relied on for a short time.

The way to treat epilepsy, in his opinion, was simply to have a plan of treatment, and carry it out over a series of months or years. He would, for instance, first put a patient upon a single bromide, say fifteen grains three times a day, to be increased until a decrease in the number and severity of the paroxysms was produced. He kept him upon this perhaps for a month. He then used the mixed bromides, or some combination of bromides with other drugs, preferably the bromide, arsenic and conium prescription. He watched the condition of the patient, and, if necessary, put him on cod-liver oil, quinine, or iron. With reference to nitrates, bromates, etc., he said that there was probably some chemical or chemico-physiological reason for inefficiency. The *ites* and *ates* would probably *never* give as good result as the *ides*. Mr. Mills believed with Dr. Pepper (*Med. and Surg. Reporter*, January 12, 1884), that close attention should be paid to every point in the daily life of an epileptic—to diet, rest, and hygiene; but he did not, with his present experience, believe that a genuine case of thoroughly developed epilepsy could be cured, or even greatly benefited, without drugs. Harm, however, might be done by over-use of drugs.

Among the surgical and external means of treatment he had successfully used, were, excision of cicatrices, removal of neuroma, actual cautery, and blistering to the neck or head. He said he did not use counter-irritation to the scalp, but was a strong believer in the

actual cautery, used after Brown-Séquard's method, to the nape of the neck.

Dr. E. T. Reichert said that the efficacy of the bromides was certainly not due to the bromine, for bromide of potassium is the best of the bromides, and it contains less bromine than any of the others. The amount of bromine in the chief bromides, as given by Gowers, is as follows:

Bromide of ammonium, . .	81 per cent.
Bromide of potassium, . .	67 per cent.
Bromide of sodium, . . .	77 per cent.
Bromide of lithium, . . .	92 per cent.

All the bromides act alike, but with varying degrees of efficiency. The bromates, nitrites, etc., are not as useful as the bromides. A certain line of similar chemical salts seem to give uniform physiological and therapeutical results.

Dr. Guy Hinsdale said that, in regard to the cases in which Dr. Mills used the nitrate of potassium, some four years ago, one was benefited, some remained the same, while others were apparently made worse by its use.

Dr. Wharton Sinkler wished to know if any of the members had used hyoscyamus, and with what results. He said that Althaus, of London, reported cases in which tincture of hyoscyamus had been used successfully, in doses of from one to three drachms. He said that he had reported one case of epilepsy which had been greatly benefited by cannabis indica, after the bromides and other remedies had failed.

Dr. H. M. Wetherill said that, in his experience, the bromide of potassium was the best remedy. He said he had never tried the tincture of hyoscyamus. He had never seen a case of epilepsy entirely recover.

Dr. F. Dercum said that his experience was summed up in the statement that he found the bromides the best.

Dr. Morris Lewis spoke of the cure of a child, three years old, at the Episcopal Hospital, in which he could obtain no results with the bromide of potassium. The seizures continued, and were worse, if anything. He then resorted to bromide of ammonium, and with immediate good results.

Dr. J. H. Lloyd thought that in cases of epilepsy attention to the digestive functions and to sleep was highly important. He called attention to the observation of Dr. Radcliffe, that epileptics have a tendency to over-eat and to sleep too much. In his own experience, he had found that when constipation was present the seizures were likely to be more frequent and severe. Dr. Radcliffe and other English physiologists seemed to prefer comparatively small doses of the bromides long continued. Dr. Lloyd believed the combination of three bromides with the iodide of potassium to be one of the best in the treatment of epilepsy.

Dr. A. J. Parker believed we could not say that the effect of a drug like bromide of potassium, bromide of sodium, etc., was due either to the bromine, or potassium, or the sodium, etc. Each of these salts is an individual drug, each molecule of which has its own form of motion. Bromine is a substance with its own peculiar molecular condition of motion. Potassium, similarly, has its own motion. Bromide of potassium is the resultant of the two motions. Certain members of the same chemical families, as the bromides, iodides, and chlorides, would seem to go together in therapeutical efficacy, due to similarity of their forms of molecular motion. At any time, we may expect, however, to find wide differences, since our chemical equations simply represent an idea of structure, and tell us nothing concerning the form of molecular movement; and therapeutic effects must certainly depend more on the energy and form of motion than upon any other qualities.

Dr. E. T. Reichert made a few remarks on the use of

HYDROBROMIC ACID AND THE BROMIDES IN SEA-SICKNESS.

He said, while crossing the ocean, he had the opportunity of studying the effect of hydrobromic acid and some of the bromides in sea-sickness. Hydrobromic acid was effectual, but had to be used in such large doses that, owing to the dilution with water necessary, the bulk to be taken was excessive. The bromides were therefore, he thought, to be preferred. Bromide of sodium, in large doses, was effectual in one bad case. He believed that all the bromides were good.

Dr. J. M. Taylor spoke of the use of

NITRITE OF POTASSIUM IN ANGINA PECTORIS.

In an aggravated case of angina pectoris, he had obtained very good results with nitrite of potassium. The patient had been suffering for over a year with paroxysms of increasing intensity, until death seemed imminent. After giving the nitrite of potassium for four weeks, the patient recovered. Nitrite of amyl was used sparingly to control the paroxysms.

NEW YORK SURGICAL SOCIETY.

Stated Meeting, Dec. 23, 1884.

The President, Robert F. Weir, M.D., in the Chair.

Dr. George A. Peters read a paper entitled

CASES OF EXCISION OF SUPERIOR MAXILLA, WITH REMARKS.

(See page 61.)

Dr. J. C. Hutchison said that he would like to express his preference for the removal of the upper jaw for necrosis *without external incision*, and referred to the following case which was reported in full in the *American Journal of the Medical Sciences* for January, 1884. The patient was a girl, eighteen years old, who suffered from phosphorous necrosis of the right upper jaw and malar bone. The cheek was well retracted, and an incision made from the location of the central incisor along the centre of the alveolar ridge back to its posterior margin. The jaw was edentulous. The periosteum was separated from the anterior surface of the jaw around to its junction with the pterygoid process of the sphenoid bone and upward to the malar bone, which was also now found to be dead. This was likewise denuded of periosteum, as was also the floor of the orbit. An incision was then made down to the bone along the transverse palate suture outward to the alveolar process, and another forwards along the middle suture. The periosteum was now separated from the palatine process of the superior maxilla. The spheno-maxillary fissure was perforated and the broadest part of the malar bone

divided directly opposite to the perforation, by a single cut with Isaac's right-angled forceps. The nasal process of the superior maxilla was divided by the same instrument in an oblique direction from the lower termination of the os nasi to the edge of the orbit, leaving the os unguis and the superior extremity of the nasal process of the superior maxilla undisturbed, in order to preserve the lachrymal sac from injury. One blade of the right-angled forceps was then introduced into the right nostril, and the other into the mouth, and the palatine processes of the superior maxilla were separated as far back as the palate bone, by a single cut, and the disunion of the bones concerned was finally accomplished by separating the upper maxillary from the pterygoid process of the sphenoid bone. The jaw was now grasped with a duck-bill forceps, and with a slight twist the whole of the bone (except the upper end of the nasal process) including the orbital plate was readily removed. The malar bone was removed in fragments with the forceps. The periosteum covering the bones was left intact. The palate bones were uninjured, so that the whole of the soft palate was preserved, supported by the palatine plate of the os palati.

At that time, 1872, he looked up the literature of the subject, and was unable to find any case reported in which the entire upper jaw and malar bone had been removed without external incision; whether it had been done since that date he was unable to say. He thought that there are many cases of necrosis of the upper jaw in which this operation can be performed, and regarded it as desirable, especially in women. He was unable to say whether or not bone had been reproduced in his case, or, if reproduced, to what extent; but the only deformity apparent in the photograph, which the patient subsequently sent him, was a slight falling of the right lower eyelid.

VAGINAL HYSTERECTOMY FOR CANCER; RECOVERY.

DR. WEIR presented a specimen of a uterus, epitheliomatous in its lower third, which had been removed by him at the New York Hospital by vaginal hysterectomy, under antiseptic precautions, November 10, 1884. The patient, aged 40, had suffered for nearly a year with obscure pains and discharges. After the uterus had been drawn down by ligatures passed through the cervix, the bladder was separated from it by careful dissection with the finger-end and blunt scissors, until the peritoneal cavity was reached, which was opened, and the uterus, which was considerably elongated, seized at its fundus by a hooked retractor, and tilted forwards through the peritoneal wound into the vagina. Three silk ligatures were passed on each side through the broad ligament, which was then divided close to the uterus, and the organ removed by a final cut through the peritoneum of the cul-de-sac. A single suture approximated the edges of the peritoneal opening, and the ligatures were left protruding on each side. The vagina was tamponed with peat bags, dusted over with iodoform, which were retained *in sitû* for some days, when they were removed. A flow of urine per vaginam was then noticed, which persisted. As in one place the muscular coat of the bladder had been invaded in the dissection to free the organ from the uterus, the urine was supposed to come from an opening formed by the giving way of the thin spot, and some anxiety was felt for a time, since it was also recognized that the right broad ligament had been more than usually encroached upon by the ligature in the desire to get well beyond a suspicious thickening felt in this region. It was feared, therefore, that the ureter might have been involved. A later distention of the bladder with milk while the vagina was opened by a speculum showed that the leakage was in the bladder, though the fistula could not be seen. The opening closed spontaneously December 19. The last ligature came away December 15. The patient left the hospital December 23.

COLLEGE OF PHYSICIANS OF PHILADELPHIA.

Stated Meeting, December 3, 1884.

THE PRESIDENT, J. M. DA COSTA, M.D., IN THE CHAIR.

DR. ARTHUR V. MEIGS reported a case of

OCCLUSION OF THE VENA CAVA SUPERIOR, AND A CASE OF HEART TUMOR.

A man, aged 72, was admitted into the Pennsylvania Hospital, September 18, 1883. He was strong and well until the past two years, when he had pain in the lumbar region which has increased in the last three weeks, and he has not slept well. The day of his admission he was standing by the edge of the river, looking at some object upon the water, when suddenly and for the first time in his life, he was seized with vertigo, and fell into the water. When brought to the hospital the following note was made: Skin slightly yellow and tongue furred. Radial arteries are markedly stiffened. Veins on the right side of the abdomen and chest enlarged, the largest being half an inch in diameter; those upon the left are comparatively slightly enlarged. Prominent veins extend also toward the right axilla. Examination of the heart reveals a murmur which precedes the impulse and the carotid beat. There is slight visible impulse in the epigastrium.

Sept. 21.—The cardiac impulse is in the fifth interspace, two inches to the left of the sternum, and is rather feeble; there is somewhat more forcible impulse beneath the lower end of the sternum and some visible throbbing of the abdominal aorta. Percussion one inch to the left of the sternum shows the cardiac dulness to begin in the third interspace, and there is flatness at the fourth rib level. Transverse percussion at the fourth rib level shows dulness, beginning at midsternum and extending to the left about four inches. There is distinct impulse in the second interspace to the left of the sternum, and this appears to precede the apex impulse; there is also impulse in the second right interspace, which also precedes the apex beat. There is dulness on percussion in the first interspace to the right of the sternum and in the third interspace, The percussion resonance at the corresponding areas on the left side is normal. There seems to be impaired resonance upon percussion over the upper part of the sternum. The presystolic murmur at the apex is distinct. At the pulmonary area the sounds are very faint but distinct, and the same is the case at the aortic area. At the ensiform cartilage both sounds are distinct, but the first is rather thumping, and is accompanied by a faint blowing murmur which is synchronous with the beat of the carotid artery. There

is no undue pulsation of the arteries of the neck, and the veins are full but do not pulsate. There is a systolic murmur audible in the carotids which is increased by pressure; this is also distinct in the subclavians. There is marked systolic murmur in the femorals and in the abdominal aorta as low down as the umbilicus. Lung examination shows slightly impaired percussion resonance at the right apex, while the note is full at the left. The respiratory sounds are slightly more feeble at the right than at the left apex. Posteriorly the percussion note is short, but not markedly dull. The respiratory sounds are unusually feeble.

23d.—The radial pulse is delayed. Pressure upon the enlarged veins at the lower third of the sternum causes the portion of them below the spot pressed upon to become less prominent and full, and produces a sensation of fulness over the eyes. The veins in the right iliac region tend to be enlarged.

The treatment consisted at various times of iron, iodide of potassium, and strychnia. During the whole time that he was in the hospital he complained bitterly of vertigo, and finally became very much disheartened, and on the morning of December 12th cut his throat, severing the left external jugular vein. After he had lost a great deal of blood, the vein was ligated and he lingered until December 20th, when he died.

Autopsy.—The venous system was injected. In the left pleural cavity, placed superficially just beneath the membrane was seen the left azygos, about one-half an inch in diameter, situated on the bodies of vertebræ and extending from the arch of the aorta to the attachment of the diaphragm below. The veins of communication between the spinal and intercostal vessels were found unusually large.

In dissecting the neck, numerous large veins (several one-quarter inch in diameter), were found passing behind the trachea, and they served as a communication from the right to the left side. They commenced at about the level of the episternal notch and descended into the thorax passing toward the left, and terminated in the beginning portion of the left innominate or transverse vein. The left innominate vein at this part was very much enlarged, and as the vessel advanced toward the right side to join the vena cava, it was found to be converted into a flattened fibrous cord, and this portion was pretty tightly adherent to the surrounding tissues and the branches from the arch of the aorta lying in contact with it.

A probe passed downwards within the right jugular was stopped by an obstruction at a point where the right innominate vein joined the fibrous cord in which the left innominate terminated. From the posterior wall of the right innominate, the probe entered the mouth of a moderate-sized vessel which passed downwards into the thorax; its termination and communications could not be traced; it was supposed to communicate with the right azygos vein, but this vessel could not be found.

On removing the heart the pericardium was found normal. The heart was large, and its ventricular walls were thicker than normal. The mitral orifice was narrowed at its auricular aspect, but its outlet in the ventricle was of normal size. The anterior segment was rendered rigid by the deposit in it of calcareous matter.

The opening of the inferior vena cava appeared larger than normal, perhaps half as large again. The opening of the superior vena cava was found obliterated. A very fine probe could be forced in about an inch by tearing tissues at the normal site of the cava. It was found, therefore, that the obstruction existing above in the innominate vessels was complete and extended to the auricle.

The aorta and its principal branches were very much diseased. Commencing at the aortic orifice, the whole vessel was somewhat dilated, though not aneurismal, and this condition extended to the abdominal portion. Its walls were thicker than normal and very rigid. In most parts of the tube atheromatous changes with calcareous degeneration had taken place, so that in squeezing the vessel between the fingers, the calcareous deposits cracked under the pressure with a gritty sound.

The cause of the compression and final obliteration of the calibre of the superior vena cava with its branches seemed to be due to the rigidity of the aorta together with condensation of the surrounding connective tissues, probably of inflammatory origin. All the connective tissue around the arch of the aorta and first portion of its principal branches was increased in amount and very dense, and firmly adherent to the under surface of the sternum, as well as posteriorly to the bodies of the vertebræ. It was in this tissue that the obliterated venous trunks were found, and to which the tissue adhered so firmly that it was difficult to separate the two in dissection.

The venous blood from the head, upper extremities, etc., found its way to the heart by means of the greatly enlarged veins lying on and around the spinal column posteriorly, particularly the left azygos, as well as anteriorly through the enlarged internal mammary vessels, and the superficial thoracic and abdominal branches. Most of the blood evidently came downwards to the level of the diaphragm and thence found its way directly into the inferior vena cava. Other portions of the blood descended from the superficial portions of the thorax into the abdominal vessels and thence by the lumbar branches to the abdominal vena cava.

The examination of the brain showed a notable fulness of the vessels of both the external and the internal membranes. Small patches of opacity were found on the arachnoid, along the line of the sulci over the convexity. Some of the convolutions showed in places slight degrees of atrophy, and the furrows between them were widened, and at these parts there had accumulated a small amount of clear subarachnoid fluid.

This case was a rare one, and of more than usual interest for several reasons. In the first place, there were unusual opportunities for studying the conditions, both *ante* and *post-mortem*, and the physical signs were such that the diagnosis was made during life. The enlargement of the veins of the surface led to the suspicion that one of the cavæ was occluded, and it was decided that it must be the cava superior, because when the large external veins were emptied for the space of an inch or two with two fingers, the blood evidently flowed much more rapidly and forcibly downwards when the finger nearest the head was first removed, than it did upwards when the lower finger was first removed, and this was the case as much when the patient lay in bed as when he stood, thus showing that the current in the enlarged external veins was down-

wards. Further reasons for thinking that the return circulation from the head found its way back to the heart partly by the external veins, was that, if they were compressed, there was at once produced visible congestion of the veins of the face and suffusion of the eyes, and a sensation of fulness in the head. The presystolic murmur in the heart was very marked and unmistakable, and at all times present while the patient was under observation, and abundant cause for its presence was found in the calcareous deposit with stiffening and roughness of the anterior flap of the mitral valve. The systolic murmur at the base of the heart and in the arteries was caused by the stiffening and roughness of the aortic valve flaps, and of the thoracic and abdominal aorta. It was suspected during life that the arteries of the brain would be found to be stiff, and this was the case; still it is very likely that the vertigo with which the man suffered, and of which he complained more than of any other symptom, may have been partly due to the obstruction to the return circulation from the brain, caused by the blood having to find its way through much smaller and more tortuous routes than the natural ones, and this view would seem to receive further confirmation from the fact that there were found some flattening and shrinking of the brain convolutions. The cause of the dulness on percussion over the upper part of the right side of the chest anteriorly, and the upper part of the sternum which was so distinctly made out, was not understood during life, but the post mortem showed abundant cause for it in the very great amount of hard fibrous tissue around the ascending aorta and veins in that region, and here apparently was the seat of origin of the whole pathological process. It seems most likely that the changes which finally caused a complete occlusion of the whole of the vena cava superior and the larger portion of both the innominate veins had its origin in a periarteritis which must have begun around the ascending or transverse portion of the aorta. This must have proceeded gradually, with a constant increase and condensation of the tissues around the aorta and veins, until at last there was produced the large amount of hard fibrous tissue which the post-mortem examination showed to exist in that region.

CORRESPONDENCE.

THE THEORY AND PRACTICE OF ANATOMY AT THE ANATOMICAL INSTITUTE OF VIENNA.

To the Editor of THE MEDICAL NEWS.

SIR: It has long been a matter of observation and remark by American physicians studying abroad, that European (both British and Continental) medical students about to take their degree of Doctor of Medicine (or license to practise), have a far better knowledge of anatomy than the same class of Americans. The writer believes this to be an undoubted fact, and due to four causes:

1. The longer time of medical work required for graduation abroad.

2. The graded course of study, allowing greater concentration of work upon one or two subjects at a time.

3. The more severe and practical examinations required for a degree.

4. A different and better way of teaching anatomy than is practised in the United States.

The first three causes mentioned are highly important, but do not by any means account for the result, which is in large measure due to the last.

We will take up the method of teaching anatomy in one well-known school, that of Vienna, as perhaps the most practical of all, and see in what it consists. The distinctive method means chiefly, more dissecting and more demonstrating of human anatomy to students, at their dissections and in separate courses in topographical anatomy. An elementary knowledge of comparative anatomy is required before graduation, which greatly helps to fix the multitude of facts in human anatomy in the memory, and gives an intelligent basis for further study.

The student *must* spend several months in the "annex" to the dissecting-rooms before he begins actual work with the scalpel. This "annex," as it may be called, comprises three rooms, one of which contains a large number of chests, each for certain bones; for example, one for vertebræ, one is full of ribs, one for skulls, another for femurs, etc. The walls are covered with large plain diagrams, and the rest of the room is occupied by tables, on which to put the specimens for study. These bones may be freely used by all students, with the restriction that they shall not be taken from the room or injured. A small number have to be replaced each year.

In an adjoining room are a number of the glycerine-carbolic preparations, for studying the muscles. In these the parts are about of their normal size, and consistence, everything being dissected away, except the bones, ligaments, and muscles. One such preparation, properly made, will stand about six weeks of constant handling by students. In another room are excellent alcoholic specimens of the heart, lungs, stomach, larynx, brain, etc., which may be taken out of their tanks and laid upon zinc trays for examination. To replace these as soon as they are used up, several advanced students are at work most of the time.

Meanwhile, the student attends the regular lectures upon anatomy by the University professor. When he is finally quite familiar with the skeleton, ligaments, muscles, and viscera, and has a good preparatory knowledge of vessels and nerves, he first enters the dissecting-room, has a locker assigned him for his instruments, dons a long black gown which entirely protects his clothes from being soiled, and is given an arm or a leg, separated from the trunk, upon which to commence work. The advantage of having an extremity which one can quietly dissect in one's own time and way, is very great for a beginner.

The dissecting rooms proper are far from ideal in the great essentials of space, light, and ventilation. In 1848, when the medical students took such a prominent part in the Revolution the anatomical institute was destroyed, and the Austrian government has declined to build another up to the present day. Some of the departments will soon be quartered in the splendid new buildings upon the "Ring," but anatomy, as the "fons et origo mali" must abide in the old armories which she now occupies. The rooms for student work are

three, and are on the ground floor. In addition are the injecting room and the prosectorium. In the latter the dissections for the regular lectures are made, and the courses in topographical anatomy given. Upon another side of the hollow square is the museum which contains many fine preparations by Hyrtl, and the able men who preceded or have followed him as professors or prosectors.

In the same building is the amphitheatre, and there are numerous smaller rooms for private work by the faculty, which consists of one professor, an adjunct-professor, a prosector, a demonstrator, and several assistant demonstrators. The rooms for student work are kept very clean. The floors are made of a smooth cement which can be washed every night, when the refuse is also carried away, and the place thoroughly aired. The dissecting tables are covered with zinc, have a raised edge, and slope toward a hole in the centre, from which blood, etc., escapes into a zinc pail beneath.

For student work cadavers or parts are not, as a rule, injected with any preservative solution, and no injection whatever is employed in the earlier dissections, that the students may become accustomed to tracing empty arteries, and not embarrassed by the presence everywhere of distended arterial twigs. The janitor performs such injections as are done with the ordinary wax and resin composition. It is good practice for the advanced student to do this himself, and it can usually be arranged without trouble. I have injected numerous extremities, as well as infants, with the hot injection in use here, and have never been obliged to heat the part in any way, the composition if properly melted, or thinned at the last minute by the addition of a little turpentine, will run to the very tips of the fingers and toes; indeed a small cut is usually made in the thumb or great toe, as the case may be, and all force on the piston stopped as soon as the injection escapes from this incision. The syringe is quickly withdrawn, a plug inserted in the canula, and cold water dashed over the part to solidify the injecting material. The formula for the hot injection is as follows:

R.—Yellow wax,	1 kilogram.
Resin,	1 kilogram.
Venice turpentine,	2 tablespoonfuls.

Melt the first two, add the turpentine, and then enough cinnibar to color sufficiently. A tablespoonful to a small bowl of melted injection is about the proper amount. Add a little more turpentine when remelting the injection for use.

What finds most favor is the new Teichmann's injection. It was introduced in my first winter in the Anatomical Institute, and two years later it had steadily gained ground. It is used principally for injecting extremities, heads, or parts of the body, and is not so well adapted for an aortic injection. The advantages it possesses over most others is, 1. It is a cold injection; 2. It will run to the finest arterioles, if desirable; 3. A slight alteration in the formula will enable one to use it for veins and lymphatics; 4. It remains flexible for a number of days, and the fine vascular twigs do not break in a prolonged dissection; 5. It is insoluble in alcohol, and can thus be used for spirit preparations. The disadvantages are, 1. That it requires the use of bisulphide of carbon, although when properly made, or used there is little escape of the vapor of this substance; 2. It requires a syringe with a screw piston, and some little experience to get the injection neither too thin nor too thick, and to use enough force without bursting the vessels. The following are the formulæ:

For an entire cadaver:

	Coarse.	Fine.
R.—Finely powdered and sifted chalk,	1500 gm.	300 gm.
Cinnabar,	300 "	100 "
Linseed (boiled) oil,	300 "	120 "
Bisulphide of carbon,	150 cc.	100–200 cc.

Mix the first three to the consistence of a stiff putty. This may be kept under water several days, if necessary. Rapidly add the carbon bisulphide just before use. The coarse injection should have finally the consistence of thick paint; the finer, about that of molasses.

For an extremity:

	Coarse.	Fine.
R.—Chalk,	300 gm.	100 gm.
Cinnabar,	60 "	20 "
Linseed oil,	60 "	24 "
Bisulphide of carbon,	30 cc.	20–40 cc.

Blue injection:

R.—Zinc white,	150 gm.
Ultramarine,	1 "
Linseed oil,	150 "
Bisulphide of carbon,	10–15 cc.

For lymphatics:

R.—Zinc white,	20 gm.
Linseed oil,	3 "
Bisulphide of carbon,	2 cc.

Great care must always be used to get a fine variety of chalk. The solid ingredients should be very thoroughly mixed with the oil, and the bisulphide of carbon added just before use, under a flue. Plenty of time should be taken in injecting, and the screwing up of the piston suspended as soon as the large vessels become very tense; when they relax a little another turn or two of the piston may be given. A part injected in the afternoon is ready for dissection the next morning. Enough of the bisulphide evaporates to leave the injection quite firm. It is possible that some of the benzole series might be used as a substitute for the bisulphide of carbon, being both cheaper and less offensive to work with. I have tried, without success, to substitute sulphuric ether.

It is very unusual at the Anatomical Institute for anything worse than slight constitutional disturbance and enlarged axillary glands to follow dissecting wounds. If the glands remain enlarged longer than a few days, they are treated by inunction of mercurial ointment over the skin of the axilla. This treatment appears to be very successful. A few drops of fuming hydrochloric acid poured into the palm of one, and immediately rubbed over both hands, is used to destroy the persistent odor adhering to them after dissecting a stale part, and it is more efficient than anything I have used.

Americans who wish to devote all their time to dissecting, can, in some cases, secure a private room in the Institute for that purpose. Material is, as a rule, plentiful, in spite of the large amount used. The dissection of an extremity is expected to be finished in a

week or, at most, ten days. In addition to the regular supply of cadavers of adults, bodies of infants from the foundling hospital are brought to the dissecting-rooms, often at the rate of three to ten a day. They are especially convenient for tracing out nerves.

One of the best features of the Vienna plan of instruction is the course on topographical anatomy. In this course ten or twelve men gather about a table on which a demonstration is held, and the entire body gone over in regions. The students are so near that each one can plainly see, and, if need be, touch the parts as they are shown and described. It is a most effective method of impressing anatomical facts upon the memory. Combined with some reading and persistent dissecting, it leaves little to be desired.

The common plan of holding didactic lectures upon descriptive anatomy, with a cadaver so far away from the students that no one can see anything satisfactorily, is a relic of former times, when dissection was permitted to a few only, and material was very scarce. We believe that the time spent in attending such lectures, apart from what is taught regarding the action of the muscles (and that properly belongs to physiology), is almost wasted. A much better method would be to have a corps of capable demonstrators—one to every ten or twelve students and this in a graded course would not be many—who should give one or more daily demonstrations in anatomy, each to his own division. They might be appointed for terms of three years each; one or more to go out of office each year, and their places to be filled from among recent graduates by competitive demonstrations. The salary of one professor divided among (we will say) four demonstrators, together with the benefit of three years of dissecting and teaching, would insure plenty of good applicants. The short tenure of office and the competition would yield a maximum of good work, while the advantages of a more thorough knowledge of anatomy to surgeons and students, who should teach and be taught, would be widely extended.

WALTER B. PLATT, F.R.C.S. (Eng.).

BALTIMORE, Jan. 10, 1885.

DR. STERNBERG'S VIEW OF THE ACTION OF POTASSIUM PERMANGANATE AS AN ANTISEPTIC.

To the Editor of THE MEDICAL NEWS.

SIR: In your last issue Dr. Sternberg publishes a paper reviewing some of the points discussed by me in a brief memoir on the Permanganate of Potassium, which appeared in THE MEDICAL NEWS for Nov. 22, 1884. I do not reply to this review in a fault-finding spirit. The additional reasons which Dr. Sternberg has advanced, derived as they are from a peculiarly difficult and laborious investigation, which he is carrying on, must be regarded as so much new matter of an illustrative character, contributed to a recondite subject. For these gratuitous labors, as he intimates, an investigator ought, at least, to receive the meed of intellectual appreciation from the medical public. To have his conclusions questioned seems but a poor return for so much purely scientific work undertaken and carried on for the general benefit. Far be it from me to lessen one jot of the respect which should be entertained for Dr. Sternberg's important investigations. But there may be honest differences of opinion in regard to methods and results—when the subject under discussion is still *sub judice*. I wish merely to support my own views on one point. Dr. Sternberg makes a distinction between *antiseptic* and *germicide*, and he holds those to be in error who use them as synonymous terms. I must confess that I am not convinced by Dr. Sternberg's arguments. They yet seem to me to be convertible terms.

A germicide is an agent that kills germs—ferments or organisms.

An antiseptic is an agent that prevents or arrests septic change.

In the present state of the knowledge on this subject, septic metamorphosis is correlative of the growth and multiplication of certain minute organisms. Remove these organisms and prevent the access of others—in other words, *sterilize* the fluid—all change, fermentation, or decomposition is prevented. That is a true antiseptic which inhibits or destroys the septic agent—a minute organism—and, therefore, it is also a germicide.

I need hardly say that the term deodorizer is quite distinct from antiseptic, and they cannot be used in the same sense. But an antiseptic is necessarily a germicide, and a germicide is necessarily an antiseptic so long as the doctrine of Pasteur regarding the agency of minute organisms in all fermentative processes is held.

ROBERTS BARTHOLOW, M.D.

January 12, 1885.

NEWS ITEMS.

NEW YORK.

(*From our Special Correspondent.*)

CENTRALIZATION IN THE HOSPITALS seems to be the order of the day. There is an evident inclination of medical men to devote themselves to one service, and through resignations, the staff at some of the hospitals—the New York and Roosevelt especially—are greatly reduced in number. At the latter all the surgery is in the hands of Dr. Sands and an assistant.

COLLEGE OF PHYSICIANS OF PHILADELPHIA.—At the annual meeting of the College, held on January 7, the following officers were elected for the ensuing year:

President.—J. M. Da Costa, M.D.
Vice-President.—S. Weir Mitchell, M.D.
Secretary.—R. A. Cleemann, M.D.
Treasurer.—Charles S. Wurts, M.D.
Recorder.—J. Ewing Mears, M.D.
Honorary Librarian.—James H. Hutchinson, M.D.
Censors.—Lewis Rodman, M.D., Edward Hartshorne, M.D., William Goodell, M.D., Alfred Stillé, M.D.
Councillors.—For three years, I. Minis Hays, M.D., and Arthur V. Meigs, M.D. For one year, Robert P. Harris, M.D.

UNIVERSITY OF THE CITY OF NEW YORK.—DR. AMBROSE L. RANNEY, Professor of Applied Anatomy in the Post-Graduate Medical School of New York City, has been appointed to fill the Chair of Anatomy in the Medical Department of the University of New York, rendered vacant by the death of Prof. William Darling.

University of Vermont.—At a meeting of the Medical Faculty of the University of Vermont, Dr. Ambrose L. Ranney was unanimously elected to succeed the late Dr. Darling as lecturer on anatomy.

The Extension of Tuberculosis.—The Austrian Minister of the Interior, we learn from the *Wiener med. Presse* (December 21, 1884), has called the attention of the infirmaries and larger hospitals of his country to an official circular in which the management of tuberculosis is considered at length. Inasmuch, as it is now the prevailing opinion that tuberculosis is caused by a specific bacillus, phthisis must also be considered an infectious disease, and all precautions are to be exercised concerning it which have hitherto been observed in regard to other infectious diseases.

The hospitals are directed to take into consideration the complete isolation of patients suffering from phthisis and also to employ all other prophylactic measures necessary to prevent the extension of the disease. It is further directed that the results of the observations in relation to this subject be forwarded to the Minister of the Interior.

The Report of the English Cholera Commission.—The following is the text of the preliminary report presented by Drs. E. Klein and Heneage Gibbes to the Surgeon-General and Sanitary Commissioner with the Government of India:

We have the honor to report that the investigations which we have hitherto carried on in Bombay and Calcutta have yielded the following results:

1. The statement of Koch that "comma-bacilli" are present only in the intestines of persons suffering from or dead of cholera is not in accordance with the facts, since "comma-bacilli" occur also in other diseases of the intestines—*e. g.*, epidemic diarrhœa, dysentery, and in intestinal catarrh associated with phthisis.

2. The "comma-bacilli" in acute typical cases of cholera are by no means present in such numbers and with such frequency as to justify Koch's statement that "the ileum contains almost a pure cultivation of comma-bacilli."

3. The "comma-bacilli" are not present in the tissue of the intestine or elsewhere.

4. The "comma-bacilli" in artificial cultivations, carried out by one of us (E. K.), do not behave in any way differently from other putrefactive organisms.

5. Mucous-flakes of the ileum, taken out soon after death from typical acute cholera, contain numerous mucous corpuscles, many of them filled with peculiar minute straight bacilli. The same bacilli occur also outside the mucous corpuscles. They are never missed even when the "comma-bacilli" are.

6. These small bacilli have been cultivated by one of us (E. K.), and they do not behave differently from putrefactive organisms. These small bacilli are not present in the tissues of the intestine or any other tissue.

7. No bacteria of any kind, and no organisms of known form and character, occur in the blood or any other tissue.

8. A good many experiments have been carried out by one of us (E. K.), with the following results: (*a*) Mice, rats, cats, and monkeys were fed with rice-water stools, with vomit, with mucous-flakes of the ileum, fresh and after having been kept for twenty-four to forty-eight hours. The animals remained normal. (*b*) Inoculations with recent and old cultivations of "comma-bacilli," and the small straight bacilli, as well as with mucous-flakes, were made into the subcutaneous tissue, into the peritoneal cavity, into the jugular vein, and into the cavity of the small and large intestine of rabbits, cats, and monkeys; but the animals remained perfectly well and normal.

9. The material which we have had hitherto at our disposal has been very good and abundant, and, as far as the microscopic work goes, we do not think we shall require any more material.

We therefore propose concluding our inquiry by the beginning of December, and hope soon after to return to England.—*Med. Times and Gazette*, Jan. 3, 1885.

Obituary Record.—Professor Franz Chvostek died in Vienna, on November 16th, in the fiftieth year of his life. He is well known for his valuable contributions to German medical literature. In the event of the reopening of the Josephinum Akademie in Vienna, he was to occupy the Chair of Internal Medicine.

—— Prof. Vierordt died on the 22d of November, at the age of 67 years, a short time after the resignation of his professorship. His work upon the *Doctrine of the Circulation* entitles him the credit of being the originator of the use of the sphygmograph. Of equal importance were his *Investigations upon the Velocity of the Blood Current*, and the *Physiology of Childhood*.

Vierordt also attained distinction in the domain of mental physiology. His *Elements of the Physiology of Man*, of which several editions appeared, was in its time a most useful book.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JANUARY 6 TO JANUARY 12, 1885.

Head, Jno. F., *Colonel and Surgeon.*—Retired from active service, by operation of law, on January 9, 1885, under provisions of Act of Congress approved June 30, 1882.—*S. O. 7, A. G. O.*, January 9, 1885.

McKee, J. C., *Major and Surgeon.*—Ordinary leave of absence still further extended four months on surgeon's certificate of disability.—*S. O. 6, A. G. O.*, January 8, 1885.

Shannon, Wm. C., *Captain and Assistant Surgeon.*—Relieved from duty at Fort Bridger, Wyoming, and assigned as Attending Surgeon at Headquarters Department of the Platte.—*S. O. 2, Department of the Platte*, January 5, 1885.

Robinson, S. Q., *Captain and Assistant Surgeon.*—Assigned to temporary duty at Portland, Oregon, from December 17, 1884.—*S. O. 206, Department of Colorado*, December 22, 1884.

Wales, P. G., *First Lieutenant and Assistant Surgeon.*—Relieved from duty at Vancouver Barracks, Wyoming Territory, and ordered to return to his proper station, Fort Cœur d'Alene, Idaho.—*S. O. 204, Department of Colorado*, December 19, 1884.

The Medical News *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the News *should be addressed to No. 1004 Walnut Street, Philadelphia.*

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ORIGINAL LECTURES.

EPITHELIAL CANCER OF THE EYELID.

A Clinical Lecture delivered at the Cincinnati Hospital.

BY ROBERT SATTLER, M.D.,
OF CINCINNATI, OHIO.
(Reported by C. H. CASTLE, M.D.)

GENTLEMEN: I desire to call your especial attention to the following cases, as they represent several clinical and histological varieties of a most interesting affection, the discussion of which will occupy our attention this morning. These cases represent so fairly the types you will find described in your books, that no doubt many of you can surmise from your seats the nature of the disease. It is known to the surgeons of this country as epithelioma; in England it frequently takes its name from the locality in which it is found, as, for instance, "smoker's cancer" when found upon the lip, "chimney-sweep's cancer" when found upon the scrotum. To the French it is known as "fragile cancer," a term descriptive of one of its chief physical characteristics in most cases, and by the Germans it is called epithelial carcinoma or cancroid.

Epithelioma may be described as a neoplasm which histologically has a distinct epithelial type, and which consists chiefly of tissue composed of one of the varieties of epithelial cells. The latter are embedded in a more or less vascular stroma composed either of adult, embryonal, or mucous connective tissue.

Clinically, and this applies also to the lids and the orbital cavity, we can make two grand divisions of this cancer into *superficial* and *infiltrating*, which two divisions again present varying characteristics and appearances which claim recognition and description.

This old man, a Swiss, aged 69, presented himself at my clinic two weeks ago, exhibiting what was at once recognized—the diagnosis being verified by microscopic examination—as a superficial epithelioma at the outer canthus of the left eye. According to his account, it had appeared as a small, round, whitish, slightly elevated patch some fifteen years before. Subsequently papules of a waxy hue developed, forming a growth of an oval form. When the size of a half dime the centre became depressed, and the surrounding border nodular. Eventually ulceration began in this central depression and at times a thick scab would cover the ulcerated surface. The only subjective symptoms that he complained of were the needle-like pains that occasionally passed through the growth and the discomfort that it occasioned to his eye, for, as you will see, peripheral cicatrization has caused a decided degree of ectropium of the lower lid. When he was first examined the diameter of the growth measured 10 by 17 mm. The treatment adopted in this case has resulted so favorably, that no correct conclusion can be formed from the present smoothly cicatrized appearance, of the dimensions of the growth before operation.

Besides the flat variety of superficial, or so-called lobulated pavement epithelial cancer, of which this old man presented a most typical example, we find other varieties the clinical characteristics of which we must bear in mind, in order, in many cases, to arrive at a correct diagnosis. Sometimes the infiltration presents a distinctly warty appearance, in others the external cells undergo an absolute cornification and we find the growth assuming the shape and appearance of a projecting horn, a most excellent example of which was observed recently. In this case a large horny outgrowth was removed from the right lower lid and cheek, measuring an inch in length and some three-quarters of an inch in diameter at its base. Again, but rarely, we find them in a condition of calcification and an abundant deposit of lime salts takes place in the older parts of the growth.

A not infrequent form of the superficial epithelioma is what is known as the cicatricial variety. The infiltration breaks down in patches or involves a large area of the growth and bands of cicatricial tissue traverse it in various directions, producing the well-known deformity of irregular scar-tissue.

A very characteristic form of this first or superficial type is the rodent variety. The term rodent ulcer and its synonymes, "Jacob's ulcer of the eyelids," etc., are familiar to all of you. By most authorities of weight, this "ulcer" is recognized as a rodent form of epithelioma. It is a rapidly progressive and eminently destructive process, which appears engrafted on the specific growth. It assumes a definite plan of advance, often a circular, circinating, or scalloped border marking its progress. From its malignancy and its rapidly destructive course, it is much to be dreaded, and what is perhaps peculiar, it betrays an affinity rather for the superficial than for the infiltrating variety. Leading the advance of this rodent ulcer is a growth of waxy nodules; the ulceration itself progressing by excavating the wall of its advancing border, presenting to the eye and touch a clean, glazed surface, and followed in its march by a peculiar, thin, white, glistening cicatrization, which, once seen, is never forgotten. In addition to the rodent, the superficial may manifest the papillomatous variety —papillæ-like prominences covered with irregular fringe-like projections.

In this woman, a German, aged 62, I present to your notice a typical example of the second or infiltrating variety of epithelioma. This begins generally as a superficial nodule. If, however, the starting-point is from the glandular structures—sebaceous, sweat gland, etc.—of the skin, it may appear in the form of a deep infiltration. Its course may be slow or rapid; it may assume a rodent or papillomatous characteristic. It may destroy the bones of the orbit and result in frightful deformity. In this case the disease is of twenty-two years' duration; it has resulted in complete destruction of the lower lid and has invaded the superficial and deep structures of the cheek and nose. The upper part of

the left lateral cartilage of the nose is gone and the left ala drawn up, and the upper lid of the same side bound firmly down by peripheral contractions.

Her general health is good. The proximal lymphatics are not implicated. Lancinating or needle-like pains constitute her chief complaint. Not infrequently this form assumes a papillomatous type and presents a peculiar soft warty or fringe-like development.

I have here in alcohol the eye and tumor of a patient aged 62. An extensive operation was performed about six months ago. It consisted in a thorough extirpation of all the contents of the orbit and a thorough scraping and denudation of its bony walls. In this case fungoid masses were found over the entire growth, which had destroyed the lower and three-fourths of the upper lid, and had in addition attacked the cheek, the globe, and the bony walls. The eyeball was rigidly fixed by firm and unyielding adhesions to the upper and inner wall of the orbit.

This second photograph illustrates to you an extensive rodent form of ulceration engrafted on the infiltrating variety.

It has been in progress for thirty years. The destruction is very extensive. The contents of the orbit, even the bony walls and the entire right side of the face, soft structures and bone, have been involved in the steadily progressing destructive disintegration. No implication of the proximal glands, no hemorrhage or excessive pain, and no constitutional disturbance has so far resulted. The upper and inner portion of the orbital cavity is studded with gelatinous granulations and a tumor, most probably a meningocele, exists.

Pathologically, we can recognize three varieties of epithelioma—the pavement cell cancer, the cylindrical cell cancer, and, according to German authorities, a third, rare form, the glandular cell cancer.

Under the microscope, the pavement cell cancer is recognized by certain characteristic appearances. Taking a section through the epidermis, the rete mucosum and the derma, we find that in the papillary layer of the skin a cell evolution is going on, the process apparently being the reverse of that which takes place in the normal development of the epidermis. At the periphery of the new tissue we find small, cylindrical nucleated cells—the succeeding cells are larger, cubical, or flat, while the most internal cells are concentrically laminated about a centre and flattened to the highest degree. These are the "nests," "pearl globules," or "globes epidermique."

Sometimes we find these flattened cells grouped in lobules or packed in long irregular shaped tubules, and from these appearances are made two divisions of the pavement cell cancer: the superficial lobulated and the deep or tubulated.

The arrangement of the cells in a cylindrical cell cancer corresponds to the normal arrangement of cylindrical epithelium—it is single celled. The cells, however, are perhaps larger and less regularly cylindrical —those in the centre of the growth may even be round. The stroma of both pavement and cylindrical cancers is composed of adult or embryonal connective or mucous tissue, and may be found combined in the same growth. It is very vascular, its bloodvessels, however, not penetrating in among the epithelial elements.

These growths have decided preferences as to habitat. The face is a favorite seat and particularly the junction of a mucous and cutaneous surface. In the order of their frequency of attack we find first, the lower lip, then the nose, cheeks, eyelids, brow, temporal region, upper lip, chin and ear. Histologically the sebaceous, sweat, and lymphatic glands and the connective tissue can all be looked upon as starting points.

As to the etiology of epithelial cancer, we have very little positive knowledge. We know that it is usually a disease of advanced life, that it in many cases, but not by any means invariably, is the result of a local irritation. Beyond this we cannot go. Some eminent pathologists maintain that a cancerous diathesis must exist in the individual, others that it is merely the local result of some long-continued irritation.

The course of the disease is exceedingly variable, and, of course, much influenced in many cases by prompt and energetic treatment. We will undoubtedly find many cases dragging on ten, fifteen, twenty years or longer, and evincing no particularly malignant symptoms, while others terminate by exhaustion or hemorrhage in a comparatively short period.

The diagnosis does not present many difficulties. From lupus ulcer it can be differentiated usually by its color, by the tubercular appearance of lupus, sometimes by the discharge in the latter and by the microscopic appearance. From a chancre it can be differentiated by the amenability of the latter to antisyphilitic treatment. From other varieties of cancer by its appearance at its favorite sites and by its non-involvement of the proximal lymphatics.

A certain and never-failing source of diagnosis is the microscopic appearance of the growth.

When we turn to surgical or dermatological authorities for methods of treatment of epithelioma we find a surprising unanimity of opinion. Almost without exception we find that excision and the caustics occupy their highest estimation. The author of the chapter on diseases of the lids, Michel, in Gräfe and Saemisch's *Handbook of Ophthalmology*, also assigns the first place to excision and the caustics, and only refers briefly to the method of scraping suggested by Volkman, of Halle, Germany.

Hebra, Kaposi, Neumann, Auspitz, and also Duhring, refer to this method, without, however, assigning to it better or more satisfactory results or advantages over the methods already referred to. All the text-books on the eye either do not refer to it at all or give it only a brief notice. A recent text-book by Juler, of London, England, is, perhaps, the only exception.

The method which I have adopted in these and other cases, with most gratifying results, consists in the use of a small but strong steel curette or scraping-spoon. To be followed by good results, it must be resorted to in a thorough manner, and *all suspicious-looking or fragile tissue* must be removed. The hand, by the sense of resistance, easily determines when the cancerous tissue has been removed and the instrument is in contact with healthy tissue. This applies particularly to the superficial (cutaneous) forms of the disease, and, if it has invaded only the skin, this method will, in almost every case, effect a satisfactory disappearance. In the deeper forms, to be effectual, it must be resorted to more radically, and in many cases the knife and bone gouge are necessary in addition.

In the case of the old man, there has been but one scraping; the result has been most satisfactory. The parts were pencilled with a four per cent. solution of cocaine, and the pain attending the operation was greatly reduced. Cold applications were made, and no local reaction or pain resulted, and a superficial and regular cicatricial covering exists. In the case of the woman the disease had progressed beyond the power of the curette, the knife, and the various caustics to eradicate it, but, beyond doubt, for the past two years, during which she has been a weekly attendant at my clinic, it has been greatly held in check; hemorrhage has been prevented, pain made to disappear, and these results, most excellent for this case, have been accomplished solely by the use of the scraping method.

The advantages of this method in the locality of the lids over excision, the use of the various zinc, arsenic, and caustic potash salves and pastes, the mineral acids, or the actual, thermo or galvanic cautery, etc., are, first, over excision, that the defect is not larger nor deeper than the infiltration and that plastic operations are not necessary to cover the defect; over the caustics, that the adjoining healthy regions are not implicated and the pain is much less. This applies to the various caustic pastes and galvanic or thermo-cautery. The chief advantages of the scraping method in those cases in which it is applicable—*i. e.*, all the superficial and some of the infiltrating forms—are the simplicity and ease of this method compared with others; the healthy tissues are but slightly or not at all disturbed, little or no danger from inflammatory reaction or pain after the operation, the formation of a superficial cicatricial covering and therefore either less or at least no greater deformity than existed before the operation.

These are advantages which cannot be overestimated when compared with the risks attending excision and plastic operations in this locality, or the pain and protracted ulceration which may invade the adjoining territories when caustics are chosen as the curative agents.

This remark is based upon a large number of observations, extending over a period of years and applies particularly to epitheliomata of the eyelids. It has yielded, in my experience, the most gratifying results, and I do not hesitate to recommend it to you as the method in a large number of cases which you can adopt with better prospects of success than all other surgical or caustic methods, either separate or combined.

ORIGINAL ARTICLES.

DISINFECTANTS.

PRELIMINARY REPORTS OF THE COMMITTEE ON DISINFECTANTS OF THE AMERICAN PUBLIC HEALTH ASSOCIATION.

INTRODUCTION.

AT the recent meeting of the American Public Health Association, held in St. Louis, Mo., October 14–17, 1884, Dr. James F. Hibberd, of Indiana, introduced resolutions calling for the appointment of a committee to investigate the subjects of "disinfectants, germicides, and antiseptics," and formulate the results of their research, so as to make the existing knowledge on these topics available for professional and popular use. This is the purport of the resolutions which were adopted by the Association. A Committee was accordingly appointed, consisting of Major George M. Sternberg, Surgeon U. S. Army, Baltimore; Dr. J. H. Raymond, Professor of Physiology and Sanitary Science in Long Island College Hospital, and Health Commissioner of the city of Brooklyn; Dr. Victor O. Vaughan, Professor of Chemistry in the University of Michigan; Dr. W. H. Watkins, Medical Director of the Auxiliary Sanitary Association of New Orleans; Major Charles Smart, Surgeon U. S. Army, Washington; Dr. A. R. Leeds, Professor of Chemistry in Stevens' Institute of Technology, Hoboken; and Dr. George H. Rohé, Professor of Hygiene in the College of Physicians and Surgeons, Baltimore.

At a meeting of the Executive Committee of the American Public Health Association, held in Washington on December 11, 1884, the Committee on Disinfectants was authorized to publish and make available to sanitarians and the public the results of its labors at as early a date as practicable, in view of the possible invasion of this country by cholera during the coming summer. A preliminary statement of the work of the Committee has already been made to the Conference of State Boards of Health, in session in Washington, December 11 and 12, 1884.

In order to be enabled to pursue a thorough scientific research, the Committee, after consultation, decided to appeal to city and State boards of health, and to sanitary associations for financial aid. Responses to this appeal have been encouraging, and the Committee flatters itself that the work now in progress will yield results of very great practical value.

A complete investigation of both disinfectants and antiseptics being impracticable in the time and with the resources at command, the Committee decided upon so far departing from the letter of the resolutions of Dr. Hibberd, as to limit its inquiry altogether to disinfectants, and to omit all investigations into the action of antiseptics. The Committee would define a disinfectant as an agent capable of destroying the infective power of infectious material. In its experimental investigations, the Committee has adopted the biological test upon known disease germs or allied organisms. The details of the methods pursued will be given by Dr. Sternberg in a subsequent paper in this series. Provisionally, it may be stated that in the experiments material containing zymogenic or pathogenic organisms is exposed for a definite time to the action of a measured quantity of the supposed disinfecting agent. If the vitality of the test-organism is destroyed, if it is rendered incapable of subsequent reproduction or development when placed under favorable conditions, the test is regarded as satisfactory. If, however, the organism should grow, subsequent to its exposure to the agent to be tested, disinfection has not followed.

At a meeting held in Baltimore on November 20th, the Committee was divided into two sub-committees, one consisting of Drs. Sternberg, Smart, and Rohé,

to examine the literature of disinfectants, and abstract and tabulate the results, and to investigate in an exact manner in the laboratory the relative germicidal value of the various substances used as disinfectants. The latter part of the inquiry is exclusively under the direction of Dr. Sternberg, the Chairman of the Committee, who has been granted exceptional facilities for carrying on this work in the biological laboratory of the Johns Hopkins University in Baltimore.

The second sub-committee consists of Professors Raymond, Vaughan, and Leeds, and Dr. Watkins, and will have especially to investigate the practical application of such disinfectants as are found efficient, upon a large scale, their cost, methods of use, chemical relations, effects upon furniture or fabrics, or their possibly poisonous effects upon human beings or animals. Preliminary reports from members of this sub-committee will also appear in this series of papers.

In this way, the Committee hopes to fulfil the expectations of the American Public Health Association and others interested, and to render available, before the arrival of the next epidemic season, all knowledge of practical value upon the important subjects of disinfectants and disinfection.

The Committee considered it unnecessary to make any original experiments at present upon the disinfecting powers of the haloid elements—chlorine, bromine, and iodine. In accordance with a suggestion of the Chairman, the writer presents herewith the results of an examination of the recent literature upon the disinfectant action of these substances.

I.

CHLORINE, BROMINE, AND IODINE.

By GEORGE H. ROHE, M.D.,
Professor of Hygiene in the College of Physicians and Surgeons, Baltimore.

Chlorine.—The most thorough and exact research into the disinfectant powers of chlorine on record, is that made by Fischer and Proskauer, and published in the second volume of *Mittheilungen aus dem Kaiserlichen Gesundheitsamte.* The material tested consisted of the spores of bacillus anthracis, spores of the various forms of bacilli found in ordinary garden soil, micrococcus tetragenius, micrococcus prodigiosus, bacillus of septicæmia of mice, bacillus of septicæmia of rabbits, aspergillus nigrescens and aspergillus ruber, micrococcus of erysipelas, sputum of tuberculosis, bacillus anthracis, bacterium of fowl-cholera, and various other non-pathogenic microörganisms.

The observations were made both in dry air and in air artificially moistened, and the objects to be disinfected were sometimes exposed in a dry, sometimes in a moist condition. The concentration of the gas varied from 1 part in 25,000 to 1 part in 2¼. The time of exposure in the different experiments varied from one to twenty-four hours.

Anthrax spores when thoroughly desiccated and exposed to the action of a dry chlorine atmosphere containing 44.7 parts of chlorine in 100, resisted the disinfectant action of the agent completely for one hour. After three hours' exposure, germination was still free, but somewhat retarded. After twenty-four hours' exposure, disinfection was complete, the vitality of the organism being entirely destroyed.

When the air in the experimental chamber and the spores were moistened, one hour's exposure to an atmosphere containing four per cent of chlorine was sufficient to produce complete disinfection. If the exposure was continued for three hours, one per cent. of chlorine was an efficient disinfectant; and if the spores were exposed for twenty-four hours, the effective proportion of chlorine could be still further reduced, if the air and objects to be disinfected were first rendered moist.

Bacillus anthracis itself was killed in moist air, if chlorine was present, in the proportion of 1 part in 2500 after twenty-four hours' exposure. Even with such a minute proportion of chlorine as 1 part in 25,000, the development of the organism was scanty and retarded.

Spores of the various forms of bacilli found in ordinary garden soil proved a little more resistant to the action of the chlorine. When the air in the experimental chamber was very moist, however, the presence of one per cent. of chlorine, and upwards, rendered the spores incapable of development after three hours' exposure. When the chlorine strength was four per cent., one hour's exposure was sufficient to destroy the germinative power of these spores.

Micrococcus tetragenius was killed in moist air by the presence of so small a proportion of chlorine as 1 in 25,000, if the exposure was prolonged to twenty-four hours. Exposure for less than three hours was not sufficient to destroy the life of the organism in all cases.

Micrococcus prodigiosus, and several other varieties of pigment-forming micrococci, showed themselves generally more resistant to the disinfectant than micrococcus tetragenius. In other respects, they behaved similarly, exposure for upwards of three hours being sufficient to destroy them in the presence of over four per cent. of chlorine.

Aspergillus nigrescens and aspergillus ruber were rendered incapable of further growth by exposure for one hour to moist air containing 1 part of chlorine in 25,000.

Micrococcus of erysipelas was killed by three hours' exposure to moist air containing 1 part of chlorine in 2500, or twenty-four hours' exposure to air containing 1 in 25,000.

Bacillus of septicæmia of mice was killed by exposure to an atmosphere containing from 3 to 40 parts of chlorine per thousand. The presence of 5 parts per thousand was effective after one hour's exposure in a moist atmosphere.

Bacillus of septicæmia of rabbits was killed by an exposure of twenty-four hours to 5 parts per thousand; and after one hour's exposure to 40 parts per thousand, but retained its infective properties after one hour's exposure to 5 parts per thousand.

Tuberculous sputum was disinfected after one hour's exposure to an atmosphere containing 5 parts of chlorine per thousand.

Bacterium of fowl-cholera was destroyed after exposure for twenty-four hours to a moist atmosphere containing 1 part of chlorine in 25,000.

Dr. G. M. Sternberg (*Report National Board of Health*, 1880, p. 320) tested the effect of chlorine upon dried vaccine lymph and the microörganisms of putrid urine. Six hours' exposure of vaccine lymph dried upon ivory points to an atmosphere containing 1 part of chlorine in 200, was sufficient to destroy the infective property of the lymph, as tested by subsequent inoculation. In one experiment, five points were exposed to an atmosphere containing 1 per cent. of chlorine; of these, four were disinfected, while the fifth furnished a satisfactory vaccine vesicle. The failure in this case is explained by Dr. Sternberg by the assumption of an unusually thick coating of dried lymph. In these experiments, control-inoculations with non-disinfected virus from the same packages were made in all cases.

The bacteria of putrid urine were destroyed after six hours' exposure to an atmosphere containing 1 part of chlorine in 400.

Braidwood and Vacher ("Report of Life-history of Contagium," *British Medical Journal*, 1876, vol. ii.) mixed liquid vaccine virus with equal parts of liquor chlori (B.P.), and completely destroyed the infectivity of the vaccine. The time of exposure is not stated.

Dr. E. B. Baxter (*Report of Medical Officer Privy Council*, 1875) tested the effect of chlorine on liquid and dry vaccine, and on the "virus of infective inflammation." The infectivity of the latter was destroyed by the presence of 8 to 15 parts of chlorine in 10,000. The time of exposure to the action of the disinfectant is not stated. The experiments of Dr. Baxter on vaccine lymph are not detailed with sufficient exactness to allow trustworthy conclusions to be drawn. He states, however, that "unless the chlorine was present in sufficient quantity to render the lymph acid, it had no effect."

Fischer and Proskauer, in addition to testing the influence of chlorine on micro-life, also exposed a number of fabrics, colored leather, and wearing apparel to the action of this agent. All the colored articles were either bleached or much altered in color. They conclude their elaborate memoir with the following observation:

Disinfection with chlorine is attended by great inconvenience, on account of the rapid evolution of the gas from the chlorinated lime and hydrochloric acid when mixed, and the very irritant action of the gas upon the mucous membrane of the larynx and of the eyes. Clothing is also liable to be discolored by the action of this disinfectant.

Bromine. — Fischer and Proskauer (*Ibid.*) also studied the effect of the vapor of bromine upon spores of bacillus anthracis, spores of garden soil bacilli, tuberculous sputum, bacillus anthracis, micrococcus prodigiosus, micrococcus tetragenius, micrococcus of erysipelas, aspergillus nigrescens, aspergillus ruber, and several other non-pathogenic organisms.

After an exposure of three hours in a dry atmosphere containing 3 parts of bromine vapor in 100, the anthrax bacillus, tuberculous sputum, and both aspergillus species were entirely disinfected. The spore-bearing organisms and the non-pathogenic micrococci retained their power of development, although generally in a diminished degree. After moistening the air in the experimental chamber to the greatest attainable degree, three hours' exposure to an atmosphere containing 1 part of bromine in 500 acted as a thorough disinfectant; if the exposure was prolonged to twenty-four hours, 1 part in 3500 was efficient. When the proportion of bromine was reduced to 1 part in 16,000, exposure for twenty-four hours failed to disinfect spore-bearing organisms.

Upon the whole, bromine did not prove as prompt a disinfectant as chlorine, besides being very difficult and dangerous to handle.

Iodine.—The disinfecting power of iodine has been determined by Dr G. M. Sternberg (*American Journal of the Medical Sciences*, April, 1883). He experimented upon the micrococci of pus and of septicæmia, bacterium termo, and the organisms found in broken-down beef-tea. An exposure of two hours to the disinfectant in solution, in the proportion of 1 in 500, was effective in destroying the vitality of all of these organisms.

Salmon (*Report of United States Department of Agriculture*, 1883) experimented on the micrococcus of fowl-cholera, and found iodine an efficient disinfectant in the proportion of 1 part in 1000.

Summing up briefly our knowledge upon this subject, the following conclusions seem to be justified:

1. Chlorine is an efficient disinfectant when present in the proportion of 1 part in 100; provided the air and the objects to be disinfected are in a moist state, and the exposure continues for upwards of one hour.

2. Chlorine, when used in sufficient concentration to act as a trustworthy disinfectant, injures colored fabrics and wearing apparel.

3. Bromine is an efficient disinfectant in the proportion of 1 part in 500; provided the air be in a moist state, and the exposure continues for upwards of three hours.

4. Iodine, in solution, is an efficient disinfectant in the proportion of 1 part in 500; the exposure continuing for two hours.

5. The use of chlorine, and in a greater degree of bromine, requires considerable experience in management; when carelessly handled they may cause inconvenient or even dangerous symptoms in persons using them; for these reasons they are not suitable as disinfectants for popular use.

ON SURGICAL TUBERCULOSIS.*

BY R. J. HALL, M.D.,
OF NEW YORK.

SINCE Koch's announcement of the discovery of the bacillus tuberculosis,[1] the medical press has devoted more time to this subject than perhaps to any other in the whole range of medical science. To those who had not followed the steps by which the problem had been brought day by day nearer to its solution, Koch's announcement seemed either an audacious theory, opposed to the results of all previous clinical and pathological research, or a stroke

* An Inaugural Thesis read before the New York Surgical Society, Nov. 11, 1884.

of genius, answering at once the question which had baffled all others.

Many, however, who had followed the subject from the beginning, saw in Koch's discovery but the absolute proof of that which, on other grounds, they had long held to be practically certain.

Although, on account chiefly of the immediate value of the discovery for diagnostic purposes in diseases of the lungs, most of the recent contributions have had reference to cases lying rather in the domain of medicine than of surgery; yet the latter has been by no means entirely neglected. In this country, however, the recognition of the tubercular nature of many surgical affections has been extremely slow. Thus, while so great an authority as Koenig, in Germany, does not hesitate to say that the surgeon, when speaking of chronic inflammation, scarcely thinks of anything but tubercular disease,[2] in an edition so recent as 1883, of a widely read American work on diseases of the joints, tuberculosis is not mentioned as a factor in pathology or etiology; and it is not too much to say that numbers of surgeons of considerable experience never get beyond the terms "strumous" or "scrofulous" in their diagnosis of these same affections.

I do not hesitate, therefore, to present the results of my own examinations of material from cases of surgical tuberculosis with reference to the presence and histological relations of the bacillus. It will be necessary first to sketch briefly the arguments which, in my opinion, render the mycotic origin of tubercle an established fact in medical science, and no longer a mere theory. The subject has been so conclusively dealt with by Koch himself[3] that but little is left except to give a résumé of the argument as presented by him.

The idea that tuberculosis is an infectious disease is by no means new. Klencke, as has been pointed out by Spina[4] and Koch,[5] first successfully inoculated animals with human tuberculosis in 1843. Villemin, however, was the first to attract general attention to the subject by a series of successful inoculations, accompanied by a number of carefully conducted control-experiments, with non-tubercular material, the latter giving always negative results.[6]

At first these views were received with general favor, but soon a large number of experimenters announced that they had arrived at very different results—that inoculations with the most varied non-tubercular animal and vegetable substances, also produced tubercular lesions, especially in animals predisposed to the disease. Among these the reports of Burdon Sanderson,[7] Wilson Fox,[8] and Cohnheim and Frankel[9] may be mentioned as having appeared especially conclusive, and having been most extensively quoted.

When these experiments, however, are examined in detail they are found, as has been well pointed out by Raymond and Arthaud, in an exhaustive article on the subject,[10] to have fallen into errors due to neglect of precautions especially insisted on by Villemin. It is unnecessary now to discuss the cause of failure in those cases in which tubercular material was inoculated and no tuberculosis produced, since not the strongest opponents of the theory of a specific poison would now deny that tuberculosis can be produced by inoculation with tubercular material. In those cases in which it had been alleged that tuberculosis has been produced by inoculation with indifferent non-tubercular substances, the observers have sometimes trusted to the macroscopic appearances, calling any nodules found on autopsy of the animals experimented on tubercles. In this way the nodules in the livers of rabbits due to the eggs of strongylus, tænia, and other parasites, and so common that in three hundred otherwise healthy rabbits examined by Raymond and Arthaux,[11] almost all contained them, have undoubtedly been taken for miliary tubercles; and the same has probably been the case with small foci of broncho-pneumonia and miliary abscesses in the lungs in experiments by inhalation. Or, the observers have depended on an insufficient histological examination of the inflammatory products; or, perhaps, the most frequent error of all, they have operated with a total neglect of all precautions in selecting healthy animals, having clean knives, hands, and operating rooms, keeping the animals separated from others already infected and under good hygenic conditions. No single observer has yet inoculated animals with non-tubercular material, using the necessary precautions mentioned above, produced a progressive tuberculosis, and *proved that it was tuberculosis by further inoculations* in series on other animals; yet nothing less than this would be necessary to outweigh the overwhelming evidence on the other side, for all this can be accomplished with certainty by the use of tubercular material. It is important, also, to note that Cohnheim, feeling doubtful of the reliability of his own experiments in the crowded and dirty laboratories in Berlin, repeated them in Breslau, with proper precautions, using chiefly the anterior chamber of the eye for inoculations, and with entirely opposite results, producing tuberculosis invariably with tubercular material, and never with any other;[12] and recently Dr. Dawson Williams, at the request of Drs. Sanderson and Wilson Fox, repeated their experiments, using every precaution against accidental infection, and also with entirely negative results. These experiments were controlled by Dr. Wilson Fox himself, who was present when Dr. Williams read his paper.[13]

Among many others who have made extensive observations, with the same results, may be mentioned H. Martin,[14] P. Baumgarten,[15] K. Schuchardt,[16] Damsch,[17] Tappeiner,[18] Dieulafoy et Krishaber,[19] and Koch himself.[20]

Having been led to the conclusion, on the above and other grounds, that tuberculosis was possibly due to a specific poison of a parasitic nature, the steps pursued by Koch,[21] as described by himself, were as follows: First, to determine whether in tubercular tissues elements occurred foreign to the tissues and not produced by them; second, having found such elements, to prove that they were living organisms, which could be distinguished from others of the same family, and capable of indefinite multiplication; third, to show that tissues containing these organisms, as we may now call them, when used for inoculation produced the disease, and that no other tissues

did so; fourth, to cultivate these organisms on suitable soil and with suitable precautions against contamination, through successive generations, until it was absolutely certain that none of the original material was present, and with these pure cultures to produce the same disease; and, lastly, to show by a sufficient number of control-experiments that inoculation with indifferent substances never does produce tuberculosis. All this has been accomplished by Koch with marvellous accuracy and minuteness of detail, in such a way as not to leave a loophole of escape from his conclusions. His experiments and observations extended over hundreds of cases, with the most uniform results. As has been well said by a recent reviewer, "It is fair to predict that among the future assailants of Koch's work, there will be very few men of judgment who have read the work in the original."[22] As for the various attacks that have been made upon Koch, they have been so conclusively answered by himself that it is scarcely necessary to do more than refer to his own article in answer to his opponents.[23]

It is worthy of note that among the numerous adverse critics, with the exception of some quite inconclusive inhalation-experiments by Balogh[24] and Schottelius,[25] only two, Spina and Formad, claim to have repeated Koch's work. Spina's[26] two or three experiments fail so utterly to comply with the conditions necessary in such an investigation as to be absolutely puerile, and quite worthy of the contempt with which Koch treats them. While I cannot discover that Formad has made any experiments on the subject, except those implied in the statement[27] that almost all animals in laboratories acquire tuberculosis, no matter what operation has been performed on them, this, in the present state of scientific knowledge on the subject, produces, as a critic has remarked, somewhat the same effect on the mind of the reader as if a surgeon should say that pyæmia could not be due to a specific poison, because all the patients operated upon in his wards died of it. It is, perhaps, of purely historical interest that while Formad gives abnormal narrowness of the lymph-spaces as one of the anatomical causes of tubercle, Hunter had already suggested an abnormal wideness of the lymphatic system as the probable cause of the same.[28]

Assuming, then, as proved, the etiological relation of the tubercle bacillus to tubercular processes, let us consider what interest this has for surgeons. From a pathological point of view, the identity of the inflammatory products in the more important surgical diseases with the pulmonary tuberculosis of Bayle and Laennec, was very early recognized. Delpech[29] maintained the tubercular nature of Pott's disease, as did Nichet[30] very shortly after the publication of Laennec's views. Nichet also described cold abscesses, independent of bone disease, formed by the confluence and breaking down of tubercle. Nélaton,[31] in 1836, describes tubercular osteitis, encapsulated and diffuse, its various terminations and the ways in which it affects the joints, almost as minutely as Koenig has done recently, in his admirable monograph on the subject.[32] All these investigations, however, were founded chiefly on the macroscopic appearance of the miliary tubercle. It was not until the description of the giant cell by Langerhans,[33] and the demonstration of epithelioid cells, surrounded by a fine reticulum, and forming a nodule, enclosing usually one or more giant cells, by Schüppel[34] gave a firm anatomical criterion for the diagnosis, that exact investigations could be made. Then followed the demonstration of tubercular disease in almost every tissue and organ of the body. Among the most important from a surgical point of view, the following may be mentioned: K. Köster,[35] in 1869, founding his conclusions on a careful examination of nine cases, first described miliary tubercles as a constant occurrence in fungoid joint diseases. Ranvier[36] had already described tubercular osteitis. Friedländer[37] found tubercles in caries of bone in scrofulous skin diseases, lupus, the os uteri, the wall of a mammary cyst, and other unexpected places. Schüppel,[38] in 1871, described tubercular lymphadenomata so minutely that pathologists have had scarcely anything to add and nothing to alter since, and declared the tubercle-like lymphadenomata of E. Wagner[39] to be really tubercle. Köster[40] found tubercles in fungoid osteitis and osteomyelitis, independent of joint disease, in almost every portion of the male and female genito-urinary tracts, in the larynx, the mamma, and the tongue. R. Volkmann,[41] in 1879, and Lannelongue,[42] in 1880, described in detail the tubercular character of cold abscess, the latter including those not dependent on tubercular disease of bone. G. Feurer[43] examined twelve cases of vertebral caries, and found nine certainly, the remaining three probably tubercular. Koenig[44] has recently called renewed attention to the frequently tubercular character of the common chronic hydrops of joints and sheaths of tendons, in the latter especially when accompanied by rice bodies, and also of some fibrous foreign bodies in joints. The joint affections had already been carefully studied by Riedel,[45] but in the increasing scepticism, as to the common origin and pathological importance of tubercular products, had been almost completely lost sight of. Bizzozero,[46] in 1874, described tubercular disease of the skin, of the sheaths of tendons, and other regions. K. Ohnacher[47] has recently published two cases of tuberculosis of the mamma with great detail, and a complete account of all previously observed cases. Nedophil,[48] though by no means the first, has discussed tubercular disease of the tongue more fully than any other author. For a more complete literature, I would refer to the works of Virchow[49] and E. Aufrecht[50] for the older observations, and to the elaborate articles of Neisser,[51] Mögling,[52] and Charvot[53] for the more recent. In spite, however, of the enormous amount of work done in this direction, the absence of what could be considered as direct proof of the etiological unity of all tubercular products made it difficult to draw any very practical conclusions from the knowledge obtained, and many of the authors mentioned above considered the frequency with which tubercle could be demonstrated in diseases clinically so utterly unlike as the strongest argument against the theory of its specific character. Rindfleisch's view, so widely accepted, of tubercle as merely an ordinary inflammatory process, modified by the constitution

of the individual in whom it occurred, and the great authority of Virchow,[54] who, defining tubercle as a neoplasm, and scrofula as an inflammatory process, running a peculiar course from local or constitutional causes, affecting the nutrition of the part, designated a very large proportion of surgical tuberculoses as scrofulous, tended to deprive these observations of their true importance.

In 1878 Volkmann's[55] article, "Über den Charakter und die Bedeutung der Fungösen Gelenkentzündungen," appeared. Founding his conclusions on examinations made by himself and his assistant, Friedländer, he declared the whole class of fungoid joint diseases, caseous lymphomata, cold abscesses, scrofulous ozæna, many rectal fistulæ, and obstinate ulcers of mucous membranes and of the skin, to be tubercular. He accepted fully Villemin's theory, which has been so much disputed, of the specific character of tubercle, and pointed to the frequent infection of all the parts surrounding a tubercular centre as most strongly confirmatory of this. Acting upon these views, he advocated the complete extirpation of all tubercular material, wherever accessible, as the only reliable means of curing the local disease and guarding against general infection. Heuter[56] had already advocated the same principles with great earnestness, though with less clear views as to the nature of the pathological processes; and Koenig, as he himself informs us in the dedication of his monograph already mentioned, while on a visit to Halle some twelve years ago, became an enthusiastic convert to the doctrines of his friend Volkmann. Under the guidance of these three great men German surgeons accepted the new teaching almost universally, and applied it so widely in operative practice as to have brought about at the present day a quite decided reaction. In France, however, it found few adherents; this is well illustrated by a discussion[57] of the subject as applied to diseases of the joints so late as 1882, in which many of the prominent French surgeons took part, and Lannelongue, whose work has been already referred to, almost alone supported the German opinion. In England and America, a reference to almost any of the most recent surgical works will show that it can scarcely be said to have made progress at the present day.

Even in Germany dissenters were not wanting among surgeons; Lücke, in 1880[58] and 1881,[59] denied the etiological unity of the chronic bone diseases in which the histological tubercle is found, attributing them to five different causes, as follows:

1. Hereditary and acquired tuberculosis and scrofulosis; 2. Hereditary and acquired lues; 3. Former attacks of infectious diseases, as pyæmia, osteomyelitis, typhus, etc.; 4. Trauma; 5. Gout.

And Sonneburg, in 1881,[60] headed what promised to be a formidable revolt among the younger men against the specific theory, had not Koch's discovery so shortly afterwards, afforded the means of placing it in an unassailable position.

In Koch's earliest publications on the subject, already referred to, the occurrence of the bacilli in surgical tuberculoses was demonstrated, and the extraordinarily small number in which they are usually found was noticed. Shortly afterwards more extensive observations were published by Schuchardt and Krause,[61] showing, on the evidence of a large number of cases, the constant occurrence of the bacillus. It will be more convenient to give the particulars of these and other reports later, when discussing the tuberculoses of different regions.

The technique of the examination may be considered under the following heads: 1. The selection and presentation of material, cutting, staining, and mounting. 2. Apparatus necessary for making the examinations and mode of examining.

1. It is almost unnecessary to say that only material should be selected containing the well-known gray gelatinous tubercle, usually dotted with small caseous specks. As this is difficult to recognize after immersion in alcohol, the selection should be made before hardening, or much time may be wasted in cutting. It is best to place the specimen directly in absolute or ninety-five per cent. alcohol, and cut as soon as it is sufficiently hard. Müller's fluid can be used,[62] but has no advantages, except the clearer demonstration of the tubercle reticulum,[63] while the granular precipitates to which it gives rise in the tissues interfere more or less with all mycological examinations.[64] Commencing putrefaction does not prevent the demonstration of the bacilli, and they can be found even in old alcoholic preparations [65] On account of the very small number of bacilli found in most cases of surgical tuberculosis, it is usually necessary to examine a number of sections, and it is very desirable that they should be moderately thin and of even thickness throughout. A good section-cutter is, therefore, almost an essential, and I have used always the largest size made by Jung, of Heidelberg. The staining of the tubercle bacillus depends, as is well known, on the fact that after staining the object to be examined in a solution of one of the aniline dyes, usually fuchsine or gentian violet, made in a particular way, it can be decolorized by the dilute mineral acids and alcohol, when only the tubercle bacillus retains its color. The specimen can then be stained with a contrast-color, as methyl-blue for fuchsine, and Bismarck brown for gentian violet. This makes it easy to study the histology of the tissue, and forms a background on which the bacillus stands out more distinctly. There are a number of theories of the cause of this peculiar reaction of the tubercle bacillus, but none are at all satisfactory, and they need not detain us. Koch himself has discarded his original method of staining, and I will, therefore, not stop to describe it.

I have used altogether Ehrlich's method, which, with more or less modification, has been employed by almost all observers. My exact procedure has been as follows: To distilled water so much aniline oil is added that, after shaking vigorously, some still remains undissolved. This is allowed to stand for a few minutes, being shaken at intervals, and then passed through a moistened filter, when a clear fluid should be obtained. To this is added, drop by drop, a saturated alcoholic solution of fuchsine or gentian violet, until a metallic shimmer appears over the whole surface. In this staining fluid the sections are immersed for twenty-four hours. Fluids are spread in thin layers upon cover glasses, allowed to dry, passed three times moderately fast, with the smeared

side upwards, through the flame of an alcohol lamp or Bunsen burner, and then floated on the fluid for the same length of time. At a temperature of about 50° C., one hour is sufficient;[66] but I have found it more convenient, and think it surer, to keep them twenty-four hours. They are then tranferred directly to thirty per cent. nitric acid for a few seconds, washed for a few seconds in about sixty per cent. alcohol, and then stained again in a solution of methyl-blue or Bismarck brown, made by adding a saturated alcoholic solution of the coloring matter to distilled water, until the liquid begins to lose its transparency. The specimens remain in this for from five to ten minutes, are then washed in dilute alcohol, dehydrated in absolute or ninety-five per cent. alcohol, cleared in oil of cloves* and mounted in Canada balsam. These rules are identical with those most recently given by Koch,[67] except that he uses nitric acid, one part to three or four parts of water, leaves the specimens in the staining fluid twelve hours as the minimum, and gives exact proportions for making the staining fluids, and these changes are, I have no doubt, improvements. In my earlier work, I met with certain difficulties which it may be well to mention. Almost all the descriptions which I had at that time read spoke of the necessity of completely decolorizing the specimen in the acid. This I found to be quite impossible after the sections had been twenty-four hours in the staining fluid. Even after twenty-five minutes in the acid, a considerable amount of color remains in the tissues; it is, however, completely removed by the alcohol. There does not seem to be much danger of bleaching the bacilli by the acid, if the section has been stained during twenty-four hours, as I have found them very abundant in specimens which had been twenty-five minutes in thirty per cent. nitric acid. There is, however, great danger of decolorizing partially or completely, some or all, of the bacilli, when stained by any of the short methods, so useful for examining sputum. I would, therefore, strongly advise against the use of any of these short methods in surgical cases, in which it is to be expected that the bacilli will only occur sparingly, and, if but faintly tinged, may be obscured by the cells among which they lie. Koch directs, as a precautionary measure, that the specimens should only remain a few seconds in the acid. It is important that the specimens should not be immersed in water at any time after staining, as this fixes the remaining color, and makes it difficult or impossible to remove with alcohol; in this way other objects besides the tubercle bacilli may retain the characteristic color, and this has doubtless given rise to many errors The thirty per cent. acid used to decolorize, besides being disagreeable to manipulate, sometimes shrinks the tissues to an inconvenient extent; the more dilute solution recently recommended by Koch is therefore an improvement, and he suggests that it may be safe to dilute it even more. I have found, however, in decolorizing with merely slightly acidulated alcohol, as recommended by Orth, the nuclei of some cells, and particularly the granular protoplasm of Ehrlich's mastzellen, are liable to retain the violet stain, and indifferent bacilli might possibly do the same. Horny constituents of the tissues retain the color, and fragments of this kind, such as hairs and horny epithelium, may give rise, if the fact is not known, to a suspicion that the specimen has been insufficiently decolorized. Almost all these points are discussed by Koch, whose last article on the subject I had not been able to see until after I had worked them out for myself. In accordance with most other observers, I have found gentian violet and Bismarck brown much the most satisfactory staining. Violet has indeed the disadvantage of not showing well by artificial light, but by daylight the bacilli stand out rather better than when stained with fuchsine. Bismarck brown, also, I have found more manageable as a contrast-color than methyl-blue; there is, I think, less danger of overstaining, and any superfluous color can be more readily washed out in alcohol. The lepra bacillus, as is well known, alone of all hitherto known varieties, stains in the same manner as the tubercle bacillus. It differs from it, however, in shape and size, as well as in coloring by Weigert's method for nucleus staining, and there is little practical danger of confounding the two. Considering the rather complicated technique, it is not strange that a small number of observers have reported that bacilli other than the tubercle and lepra varieties take the characteristic color. In one instance in which Craemer[68] reported the discovery of tubercle bacilli in the stools of healthy persons, Marchand[69] examined the specimens, and states that all bacilli were stained, the preparations being insufficiently decolorized. There is such a mass of reliable evidence on the other side, that it is fair to conclude that the remaining cases rest on similar errors. I have myself frequently examined decomposing urine, sputum, and pus, and once or twice tissues, in which putrefaction had commenced before immersion in alcohol; all these were swarming with microörganisms, stained brown, but I have not found any stained violet, whose shape, or size, or situation would suggest that they were not tubercle bacilli.

2. The tubercle bacillus can be seen with a power of about 300 diameters, but Koch recommends 500 to 700 as best. For the examination of fluids spread on cover-glasses, an ordinary microscope can be used. For the examination of sections, however, the addition of a good Abbe condenser, used without a diaphragm, is necessary. With this the outlines of the tissues are almost completely lost, and scarcely anything is seen in the field except the stained bacilli and the nuclei stained with the contrast-color. The Abbe is so essential that I would not attach any importance whatever to a diagnosis made by myself or any one else without its aid. It is true that in a section rich in bacilli it is possible to see a few, using a high power without the condenser. But were they not known beforehand to be bacilli, it would often be impossible to assert it with confidence, while the greater number escape observation altogether. Koch insists also on the importance of using a homogeneous oil immersion. Having been disappointed in an effort to get one, I have been compelled to use a very good Hartnach water immersion, No. 10, after first convincing myself by a number of trials that the bacilli could be very well seen with it. I have

found, however, where the tissues were deeply stained or the sections at all thick, some difficulty in penetrating them with the water immersion, and I have no doubt the oil system would have saved much time. In surgical tuberculoses, in which the bacilli generally occur very sparingly, they are usually in the giant cells. It is best, therefore, as pointed out by Schuchardt and Kraase, to pick out a giant cell and then examine it thoroughly with the immersion system, going on to another only when convinced that the first conceals no bacilli.

I shall give the results of my own investigations in the following order:

I. Tubercular disease of bones and joints.
II. Tubercular lyphomata.
III. Tubercular disease of the skin.
IV. Other tuberculoses.

Adding to each group such remarks as are necessary, and giving at the end the principal observations already published.

I. Tubercular Disease of Bones and Joints.

Case I. *Fungoid Arthritis of Wrist, with several Sinuses.*—Man, æt. 35, family history of phthisis. States that he sprained his wrist thirteen months ago; that an abscess formed within a week, and was opened four weeks later. Excision February 9, 1884. Microscopic examination of sections of granulation-tissue on carpal bones shows hyaline cartilage, the cartilage-cells proliferating, and granulation-tissue containing a few cartilage-cells, without capsules, and at one point commencing to undergo change into cicatricial tissue. In the granulation-tissue there are a few tubercles, containing giant cells, and in some cases caseous in the centre. Four specimens examined: fuchsine; no double staining; two negative; in two a small number of bacilli.

Case II. *Cold Abscess of Knee-joint.*—Adult man; disease of spine of many years' duration; joint distended with fluid; no sinuses. January 15, 1884, joint incised, and sero-purulent fluid, with large masses of fibrin infiltrated with pus, evacuated. Examination of sections of fibrin: fuchsine; five specimens; three negative; two contain a very small number of bacilli. March 19, 1884, excision of the joint. Microscopic examination of the thin layer of tubercular tissue lining the whole interior of the joint shows abundant tubercles, containing giant cells and cartilage invaded by granulation-tissue. Three specimens: violet and brown; two negative; in one a few bacilli; five or six in all, one in a giant cell, one close to, but apparently not in, a giant cell; the remainder on the borders of caseous material.

Case III. *Fungoid Arthritis of the Shoulder-joint.*—Adult man; disease has existed more than six years; abscesses have formed and broken in the neighborhood of the joint, and sinuses remain open. Excision May 15, 1884. The cartilage is found to have disappeared from the head of the bone, which is in part covered by fungoid granulations, in part bare and carious. There is a large sequestrum lying loose in a cavity in the head of the bone. Gross appearance of the granulation-tissue is that of gray gelatinous granulations, with numerous white specks; caseous material throughout. Microscopic examination shows numerous tubercles, most of them containing one or more giant cells, and showing advanced cheesy degeneration in places. Five specimens: violet and brown; two negative; in one, five bacilli in a tubercle among epithelioid cells; in another, one bacillus in a giant cell; in a third, three giant cells contain each a bacillus.

Case IV. *Fungoid Disease of the Tarsal Bones.*—Man, æt. 33; family history good; duration of the disease, four years; abscesses formed eight weeks ago. April 28, 1884, amputation of leg. There is extensive fungoid caries of the astragalus, scaphoid, and cuboid. Gross appearance of the fungoid tissue the same as in Case III. Microscopic examination shows granulation-tissue, with a border of young epidermis at one point, and containing numerous tubercles with many giant cells. Five preparations: violet and brown; three negative; in two, one giant cell in each contains a bacillus.

Case V. *Fungoid Disease of (probably) Sacro-coccygeal Articulation.*—Man, æt. 34; family history good; general health good; lungs normal. Two months ago, small abscess to left of coccyx; broke in a few days, and pus, with small fragments of bone, evacuated. Sinus has remained open, and leads to an articulation, apparently that between the sacrum and coccyx. Sinus lined with fungoid granulations. May 16, 1884, resection and scraping. Microscopical examination shows typical tubercles. Five specimens: violet and brown; four negative; in one a miliary tubercle contains three bacilli, one in a giant cell, two among epithelioid cells; two other miliary tubercles contain two and one bacilli, respectively, close to, but apparently in, giant cells.

Case VI. *Fungoid Disease of the Knee-joint.*—Young man; duration of disease unknown: numerous sinuses exist, and joint is much disorganized. Excision May 24, 1884. Fungoid granulations line the whole interior of the joint. No tubercular osteitis observed, and disease probably of synovial origin. Microscopical examination shows typical tubercles. Eight specimens: violet and brown; five negative; three contain one bacillus each, among epithelioid cells.

Case VII. *Fungoid Disease of the Ankle-joint.*—Boy of about 17: duration of disease unknown; joint has been incised and drained, and sinuses remain open, and are lined with fungoid granulations. Excision May 22, 1884. Gross and microscopic appearances as in last. Five specimens: violet and brown; two negative; one contains three bacilli, and two others one each. All the bacilli are close to giant cells, and in or among epithelioid cells.

Case VIII. *Fungoid Disease of Ankle-joint and Tarsal Articulations.*—Man, æt. about 22; disease probably primarily synovial; suppuration had occurred and incisions had been made; sinuses remain open. Mikulicz operation June 4, 1884. Gross and microscopic appearances as in Case VI. Five preparations: violet and brown; three negative; in one, two bacilli; in another, one.

Case IX. *Suppurative Arthritis of Shoulder-joint, following Drainage of a Large Hygroma.*—Man, æt. 48. The hygroma, just in front of the anterior border of the deltoid, was first noticed nine weeks ago, and

then nearly as large as when incised; had been tapped twice. Incised March 11, 1884, when fluid containing rice bodies and disorganized tissue, like cartilage, evacuated. Joint entered, and articular surfaces found eroded. Excision June 9, 1884. The head of the bone was denuded of cartilage, carious, and covered in part with gray gelatinous granulations, containing, however, none of the white caseous specks. Portions of the granulation-tissue from the cavity of the joint present a similar appearance, but dotted with a small number of white specks. On microscopic examination, a large part of the section shows only granulation-tissue and young connective tissue; a portion consists of non-vascular tissue, formed principally of epithelioid cells, with a few giant cells, and at points commencing cheesy degeneration. On the borders are a few miliary tubercles, some becoming fibrous. Six specimens examined: violet and brown; four negative; in one, one bacillus in a giant-cell; in another, two bacilli close together.

CASE X. *Fungoid Disease of the Hip-joint.*—Girl of about five; both femur and acetabulum extensively involved, and sinuses exist; excision, June 18, 1884. Both gross and microscopic appearances of the granulations are those of tubercle tissue. Two specimens examined: violet and brown; several bacilli found in each; two in one giant cell.

These are all the cases of tubercular arthritis and osteoarthritis which I have examined, and, as seen, bacilli have been found in all; though in some cases only after a prolonged and careful examination, extending even over several hours. Even at the risk of being tedious, I have given these cases in some detail because, although few in number, they afford examples of each of the three forms of joint tuberculosis as classified by Koenig,[70] and even of several of the anatomical varieties included in these. Koenig's classification is as follows: 1. Hydrops tuberculosis; 2. Fungus tuberculosis, granulating fungoid inflammation of joints, tumor albus; 3. Cold abscess of joints.

Case IX. is a good example of the first class, which Koenig says is the form "relatively infrequent and still least known to the surgeon," and of which he gives the first really complete clinical description. It is also, as far as I know, the first case of this kind in which the bacilli have been demonstrated. We have in it, further, the extremely instructive combination of a large bursal hygroma, containing rice bodies, with a tubercular arthritis, the hygroma communicating with the joint. The recognition of these cases by Riedel, and recently by Koenig, has been referred to already.

Most of the remaining cases come under the head of (II.) fungus tuberculosis proper, by far the commonest form. Case III., in which a large sequestrum occupied a cavity in the head of the humerus, is a beautiful example of that variety in which a circumscribed tubercular osteitis gives rise to a limited necrosis immediately beneath the articular cartilage, and involves the joint secondarily. Koenig suggests, on account of the frequent wedge-shape of the sequestrum, that it is probably due to an embolic process. In such cases, as the sequestrum can be neither absorbed nor eliminated, it is obvious that operation offers from the very first the only prospect of cure. Unfortunately, it is very seldom that the state of affairs can be appreciated until the joint has been laid freely open. Several of the cases presented small cavities in the articular ends of the bones, filled with caseous material, indicating the probable origin of the disease in a circumscribed osteitis, causing the complete disintegration of the bone, and involving the joint secondarily as before. Case IV., in which the astragalus, scaphoid, and cuboid were all extensively diseased, is a good example of the infiltrated tubercle, where the disease rapidly involves the whole epiphysis or short bone, as the case may be, and produces complete disorganization of the neighboring joint. Such cases, which are fortunately not the most common, usually, as in the above, demand amputation. Cases VI. and VIII. were probably of synovial origin, as no tubercular osteitis could be found. Volkmann[71] declared this to be extremely rare, the disease beginning usually, and in children practically always, "so gut wie ausnahmslos," in the bone. Further observations, especially by Koenig, and by Müller[72] under Koenig's direction, have shown that although much the less common, the synovial origin is not so infrequent as Volkmann supposed, being in fact about 20 per cent. of all cases.

Finally, Case II. is a good example of (III.) cold abscess of the joint, or synovitis suppurativa tuberculosa, as Koenig prefers to call it, in which the interior of the capsule is lined with a tubercular membrane, and the joint distended with the characteristic tubercular pus.

II. Tubercular Lymphomata.

CASE I.—Anæmic, but otherwise robust young man. Lungs apparently sound. Cervical and axillary lymphomata of two years' duration. Partial extirpation February 19, 1884. Microscopic examination shows large-celled infiltration, abundant miliary tubercles, containing giant cells and advanced caseous degeneration in parts. Four specimens: violet and brown; three negative; one shows a considerable number of bacilli on borders of a caseous mass.

CASE II.—Man, aged 21. Cervical lymphomata of six years' duration. Extirpation April 15, 1884. Microscopic examination shows large caseous masses in all the glands, and immense numbers of miliary tubercles, containing generally one to three giant-cells. Three specimens: violet and brown; one negative; in one, three bacilli in one giant cell; in another section, one bacillus in a giant cell, and one among epithelioid cells.

CASE III.—Young man. Cervical lymphomata. Extirpation June 18, 1884. Microscopic examination shows glands to be almost entirely caseous; only at borders of the glands are a number of typical tubercles, almost all caseous in the centre, and most containing a giant cell. Three preparations: violet and brown; one negative; in one, six bacilli together, among epithelioid cells; in another, two giant cells contain each a bacillus.

In a fourth case, in which cervical lymphomata presented the typical tubercular structure, no bacilli were found in the three sections examined, but as

they were found in sections of a tubercular cervical ulcer, excised from the same patient, the search was not continued.

Mögling, in his discussion of chronic lymphomata, quotes Ziegler's classification as follows:

1. The small-celled hyperplasia, undergoing caseation or suppuration. 2. The large-celled indurated hyperplasia. 3. The reticular hyperplasia. 4. Tuberculosis, and the more complicated and less satisfactory arrangement of Orth.

He shows that Group 2, in the above, is undoubtedly to be considered as tubercular, both from the anatomical structure and the fact that Dr. Nauwerck, and Mögling himself, have demonstrated the bacilli in glands of this structure, but leaves it doubtful whether those in the first group, which undergo cheesy degeneration, do not belong to the same category. The four cases given above all presented the classical tubercular structure described by Schüppel, namely, groups of epithelioid cells enclosing more or less numerous giant-cells. To these may be added a fifth, not of a surgical character.

5. Mesenteric lymphatic glands from child dead of tuberculosis of the lungs, liver, and mesentery. Mesentery studded with miliary tubercles. Microscopic examination. Almost the whole gland caseous; at the borders a few tubercles, most of which are fibroid. Here and there groups of lymphoid cells, not yet cheesy. Three specimens: two negative; in one, four bacilli, lying among lymphoid cells.

These cases, therefore, only furnish additional evidence, if such were needed, that all lymphomata possessing this characteristic structure are due to the invasion of the tubercle bacillus. The further question raised by Mögling, whether any other than these are due to the same cause, has been practically settled by Koch[73] himself, who, after demonstrating the bacilli in all cases, twenty-one in number, having the tubercular structure, failed to find them in any of a number which were enlarged, in some cases softened, and containing small collections of pus, but which did not show the collections of epithelioid and giant cells. Here, then, as elsewhere, we may rely confidently on the histological structure for a diagnosis.

III. Tuberculosis of the Skin.

Case I. *Tubercular Ulcer of Thorax.* — Man, about twenty-five, with remarkably long, flat thorax; superficial ulcer, about two and a half inches in diameter, over the upper portion of the sternum, with eroded, undermined edges, constantly spreading by erosion of the margins; surface covered with small granulations, which have a great tendency to break down. Patient has acute phthisis, the whole of the right and a great portion of the left lung being involved. No appetite; hectic and constant cough, with very abundant purulent expectoration. States that these symptoms have only existed a few weeks, and appeared after the ulcer. Examination of the sputum: fuchsine; a small number of bacilli. Examination of material obtained by scraping: eight preparations; fuchsine; six negative; four bacilli in one, and one in another.

Case II. *Tubercular Ulcer of Sac.*—Young man with tubercular cervical lymphomata (see Cervical Lymphomata, Case IV.), and ulcer of the neck, which was excised. Microscopic examination of sections made through the base of the ulcer shows typical tubercles containing giant cells. Twelve specimens: fuchsine; eight negative; two contain each a small number of bacilli, and two a very few.

Case III.—Caspar Docrr, æt. 52, Feb. 14, 1884. Family history and general health good. One year and eight months ago small papules appeared on dorsum of left wrist; these coalesced, forming a patch, which spread at the margins, not itching. Just before admission, acute lymphangitis, extending from the wrist to the axilla, where lymphatics are enlarged and painful. Examination: There is a papillary growth on the dorsum of the wrist, but slightly elevated above the surface, squamous at the edges, of irregular, oval shape, about four inches long, and extending slightly on the dorsum of the hand. Tissues boggy, and pus can be squeezed out between and from beneath the hypertrophied papillæ; there are irregular, isolated papules around the margins, showing the orifices of a few sebaceous follicles, from which pus and cheesy material can be squeezed; ether was administered, and the parts thoroughly scraped with a sharp spoon, which readily penetrated to the fascia, through tissue resembling soft granulation-tissue commencing to break down. Lymphadenitis subsided promptly and surface cicatrized.

September 12th: seen a few days ago, when cicatrix was firm and healthy. There are a few papules resembling lupus nodules around the margin. Microscopic examination shows hypertrophy of the papillæ, with rapid proliferation of the epithelium, forming numerous nests. Papillæ infiltrated with small, round cells, and in parts transformed into granulation-tissue; no tubercular tissue seen. Seven sections examined: fuchsine; all negative.

Case IV.—Woman, æt. 58; March 18, 1884. About one year ago noticed a small pimple on the back of the left hand. This gradually enlarged, and about two months ago began to discharge a seropurulent fluid. Examination: There is a patch, the exact counterpart of that in the last case, except that the lymphangitis is absent; it is elliptical, two by two and a half inches in diameter, situated on the outer part of the dorsum of the left hand, just above the fourth and fifth fingers; ether; surface scraped with sharp spoon, presenting precisely the same characteristics as Case III.; cicatrized rapidly. Microscopic appearances precisely similar to Case III., except that epithelial pearls are much less abundant.. Five preparations: all negative.

I have thought these two cases of sufficient importance to be given in detail, although no bacilli were found in them, because, occurring in advanced adult life, they presented very exactly the features of lupus verrucosus or papillaris, combined with those of the scrophuloderma of Neisser, or tubercular gumma of Deprès. Unfortunately, trusting to the microscopic examination, no inoculations were made, and, having only scrapings to deal with, it was almost impossible to find fragments from which sections

could be cut, and those obtained showed only hypertrophied papillæ and proliferating epithelium, in which I could not expect to find bacilli. The clinical diagnosis, however, acquired greater certainty from a third case, presenting many points of great similarity, as follows:

CASE V. — James McMullen, æt. 53. May 17, 1884. Family history good; general health good until about six years ago, when left forearm was amputated for chronic suppurative disease of the wrist-joint, occurring without known cause. Two years ago a small red pimple appeared on dorsum of right hand; itched much, and spread in all directions. At first dry and scaly; surface became moist; healed in the centre and spread at the edges. With various salves portions of the edges healed, leaving patches on the dorsum of the metacarpo-phalangeal articulations and radial margin of wrist, as at present; ceased to itch after a time. Three months ago the whole ulnar half of the dorsum of the wrist, hand, and lower two inches of the forearm became red, swollen, and painful; and two months ago a number of openings formed spontaneously and discharged pus; have remained open since.

Examination: There are horny papillomatous patches on dorsum of metacarpo-phalangeal articulation of thumb, index, fourth and fifth fingers. Surface is dry, horny; margins dull-red; patches slightly elevated; blunt end of probe readily penetrates the tissues. Over the first carpo-metacarpal articulation is a red, slightly elevated, elliptical patch, one by one and a half inches in diameter, dry and slightly scaly on the surface, exactly resembling lupus exfoliativus. This has shifted from the dorsum of the hand, leaving the skin behind it white and atrophied; whole unaffected portion of dorsum of hand where the disease has been is thin and atrophied. The portion of the wrist and hand described above as the seat of inflammation during the last three months is red, boggy, and slightly swollen. On ulnar margin of wrist are two small openings, through which a probe can be passed in all directions under the skin, and sero purulent fluid escapes; all the skin involved, though dry and covered by cuticle, can readily be penetrated by the probe; scraped thoroughly with sharp spoon, and operation repeated shortly afterwards; condition much improved, although several sinuses remain open, and there is still a good deal of infiltration of the tissues. Inoculation on July 2d of guinea-pig, subcutaneously in abdomen, with material obtained by scraping; Koch's syringe used, and careful antisepsis. Two days later control-inoculation of another guinea-pig in same manner, with indifferent material. September 1st guinea-pig killed; inguinal glands and one lying on common iliac artery on inoculated side enlarged to size of beans, caseous throughout, and broken down in the centre. No other tubercular lesions found; control guinea-pig healthy, and inguinal glands not enlarged. Examination of caseous substance from glands (violet and brown staining) shows large numbers of bacilli, almost all containing spores, and well developed.

In addition to these cases, I must mention that an intraperitoneal inoculation of a guinea-pig with lupus vulgaris of the face failed entirely. Neisser,[74] in his most valuable and elaborate article on tuberculosis of the skin, classifies them as follows:

1. Tuberculosis in the narrower sense, with the formation of ulcers situated in the cutis, and of miliary tubercles, as part of a general tuberculosis.

2. Lupus, a less harmful variety of tuberculosis, generally remaining limited to the skin.

3. Scrophuloderma ulcerosum—*i. e.*, ulcerations which remain after the evacuation of the so-called subcutaneous cold abscesses.

Mögling objects to this classification on logical grounds, since all being tuberculoses it is not well to apply this name, which properly belongs to the whole class, to a single variety; and points out that, by this arrangement, we have the ulcers extending from tubercular lymphomata under the scrophulodermata, while those originating in tuberculosis of the bones of the skull are considered true tuberculoses. The objections to this classification are well illustrated by the following case:

Man, æt. 21; father died of consumption five years ago. Patient has cervical tubercular lymphomata of eight months' duration, and advanced acute phthisis, symptoms of two months' duration. Sputum is very abundant, and contains immense numbers of bacilli. About four months ago, a small lump appeared just below the inner third of the right clavicle, softened and broke, discharging white matter, and leaving a superficial ulcer, now almost exactly similar to that in Case I. Comparing this with the ulcer of the thorax, described above, we have two lesions, anatomically precisely alike, occurring in patients about equally advanced in acute pulmonary tuberculosis; but the one which commenced as an abscess, classified as scrophuloderma; the other, which was an ulcer from the beginning, as tuberculosis.

Mögling himself suggests the following division, taking the etiology as the principle of classification:

1. Primary tuberculosis of the skin.

A. Lupus.

B. Tubercular ulceration and pachydermatous infiltration (pachydermie).

2. Regional tuberculosis, extending to the skin.

3. Metastatic tuberculosis.

To this, there are still graver objections than to Neisser's. The term metastatic, applied to one subdivision, implies that no other variety can originate in that way. But this, it is scarcely necessary to point out, is a pure assumption. It is, indeed, true that since the tubercular character of lupus has been recognized it has been very generally treated as probably due to a local infection from without. There is, however, not a particle of evidence in proof of this view. Case V., in which we have a lupoid eruption on the hand, combined with the so-called tubercular gumma, occurring four years after the amputation of the forearm for what was almost certainly tubercular disease of the wrist-joint, would rather suggest that all these lesions were due to auto-infection from a tubercular focus, such as caseous bronchial lymphomata, as Koenig[75] has shown to be the case in probably about 79 per cent. of all joint tuberculoses. Moreover, many tuberculoses of the skin, starting from tubercular lymphomata, or the

fistulæ communicating with a tubercular osteitis, are, as Koenig emphasizes,[76] anatomically not to be distinguished from lupus.

It seems to me far better to call all varieties tuberculoses, describing the special lesion according to its anatomical character or supposed mode of origin, as is done for the cutaneous syphilides, letting such terms as lupus and scrophuloderma drop from scientific nomenclature, as has already been so nearly done for such terms as rupia and ecthyma in the kindred disease.

Before leaving the subject it may be necessary to say a few words as to the evidence which leads me to place lupus so unreservedly among tubercular lesions. Friedländer had placed it, as before mentioned, on histological grounds, among the tuberculoses, and was followed by Köster and Besnier, while Hardy, Pick, Baumgarten, Vidal, and others[77] took the opposite view. Demme[78] found bacilli in very moderate numbers in three cases of lupus. L. Dautrelepont[79] found them in seven cases. Pagenstecher and Pfeiffer[80] inoculated three rabbits in the anterior chamber of the eye with secretion from lupus of the conjunctiva. The first inoculation was apparently successful, but no microscopic examination of the diseased iris was made. In the second and third cases, however, this was done, and numerous bacilli were found. A fourth case had produced no result after four weeks. They failed to find bacilli in the lupus of the conjunctiva used for inoculation number three, and in numerous preparations from other lupus cases. Cornil and Leloir[81] in twenty-two inoculations produced tuberculosis seven times. Two of the remaining animals died too soon to be of any value. The authors were inclined to believe that some of the other cases might have succeeded if they had waited longer. In their histological examination of twelve cases of lupus they found regularly the usual tubercle structure, but out of ten sections from each case, stained by Ehrlich's method, they only found the bacillus once, and then a single bacillus. This was in a case of lupus of the ear, occurring in a phthisical person. They concluded that lupus may be an attenuated form of tuberculosis. Malassez[82] did not find the bacillus, and his inoculations failed also. Morison[83] found no bacilli in ten cases, and mentions that Dr. Symington had the same experience in at least fifteen more cases. I have only had opportunity myself to make two inoculations with uncomplicated lupus. The first, as already related, failed entirely, and it is still too early to judge of the second.

Finally, Koch[84] has demonstrated the bacilli in four cases of excised lupus. The bacilli were always in giant cells, and occurred so sparingly that in one case twenty-seven, and in another forty-three sections were examined before a bacillus was found. With these four, and three other cases from which only scrapings could be obtained, inoculations were made, and all gave positive results. In the face of so many successes by reliable observers I cannot admit that the question is still an open one, because there have been a certain number of failures. Dr. Morison,[85] who has been kind enough to give me the details of his examinations, states that the sections were kept in the staining-fluid three-quarters of an hour, in an oven at the temperature of the blood, and *completely* decolorized in nitric acid, 33⅓ per cent., which, as he states in his article, sometimes took as long as five minutes. Both these are doubtful proceedings, to the dangers of which Koch[86] has specially called attention as follows: "After a deeper staining, which gives decidedly better and more reliable results, nitric acid no longer completely decolorizes the stained layer, and sections which, as was specially mentioned, must be stained *for a longer time and very intensely*, retain always after the treatment with nitric acid, a moderately dark staining. The expression 'decolorized' is, therefore, here not to be understood literally. The failure in staining the bacilli seems in most cases to have depended on the fact that it was supposed the preparations must be altogether colorless after the nitric acid treatment, and that in order to attain this they have been *in part too little stained* and in part *allowed to remain too long in the acid.*"

The fact that Dr. Morison demonstrated the bacilli by this method, in other tubercular tissues proves nothing, for, as I have repeatedly found, where many are presented, a certain number will show when stained even by very inferior means. The extremely small numbers in which the bacilli occur in most cases of lupus would itself account for most of the failures.

(*To be continued.*)

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A PAINLESS ESCHAROTIC.

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AND
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IN the rapidly growing literature of cocaine, it is not impossible that the application which we here

* Koch recommends the use of oil of cloves, which dissolves the aniline colors out of the preparations. Before I knew this, I noticed that almost all my preparations faded very rapidly.

† Pfeiffer reported later (Ber. klin. Woch., 28, 1883) the discovery of the bacilli in sections of lupus of conjunctiva.

briefly describe, has already been employed; but, if so, it has escaped our scrutiny of the later developments regarding this drug.

When a saturated solution of cocaine hydrochlorate in strong nitric acid is applied to the uninjured skin, the ultimate result is precisely that which would occur upon the similar application of pure nitric acid, but the time required for the formation of a deep eschar is considerably longer in the former than in the latter case.

We have experimented with the mixture just mentioned upon several individuals, ourselves included, and can safely say that the sensations attending its application cannot be accurately described as painful. There is, however, a slight pricking sensation soon after the mixture is first dropped upon the skin.

Upon one person a control-experiment was instituted in the following manner: Upon his right arm were placed four drops of strong nitric acid, while upon the same point on his left arm was similarly disposed the same quantity of the mixture of nitric acid and cocaine hydrochlorate. The pure acid caused great pain, and was speedily removed; the mixture, which was applied later, caused a sensation described as "tickling, with slight pricking," which soon passed away.

In two cases the burned points were covered with absorbent cotton wet with a two per cent. solution of cocaine salicylate — a salt which we have not yet seen described, but which, in addition to the peculiar properties of its contained alkaloid, appears to be somewhat antiseptic. There has been no discomfort after the formation of the eschar. Prof. Harrison Allen, to whom we presented a portion of our solution of the salt last mentioned, kindly reports that he has applied it several times in his practice as a substitute for other salts of cocaine, with good results.

BIOLOGICAL LABORATORY OF THE UNIV. OF PENN.,
January 16, 1885.

MEDICAL PROGRESS.

THE MICROBES OF INFANTILE DIARRHŒA.—At a late meeting of the Biological Society of Paris, M. CLADO presented the results of the joint researches of himself and M. DAMASCHINO upon the microbes of infantile diarrhœa. The observations were made upon some children while yet at the breast, who were affected with diarrhœa, and upon others convalescent from measles. In these conditions, the fecal discharges are green, and the diarrhœa is serious; or they may at first be dark, and become green on exposure to the air. This latter form, though less grave, frequently is a prelude to the diarrhœa of cholera infantum. The investigations were begun in 1883, before the last appearance of cholera, and have been continued ever since; and microörganisms, distinct from those existing in the discharges of cholera, have been plainly shown to exist in infantile diarrhœa.

The microbes are stained with methyl-blue for microscopic examination, and are present in vast numbers. They are rod-shape (*bacilles en bâtonnets*), of characteristic size and appearance, and exist almost exclusively in grave cases, and are more numerous as the disease is severe. They are much larger than the bacilli of tuberculosis, and their study is also easier, especially with an immersion objective. Most frequently they are in grape-like collections, in shape sometimes slightly curved, crescent-like, and exceptionally semicircular. Their extremities are not pointed, as are certain microbes found in diarrhœal discharges, but are rounded. The bacilli are never found in the interior of epithelial cells, or of epithelial masses, but always in their interstices. At times groups of the bacilli seem to be united by an albuminous material. When observed while fresh in a drop of distilled water, they at times are in motion, and seem to have for the centre of motion the middle portion of the microbe. In all cases, as convalescence progressed, the microbes proportionately became less numerous. These investigators hold that in all cases the results obtained have been constant, and they are at present making cultures as a further confirmation of their research.—*Le Progrès Médicale*, Dec. 27, 1884.

THE SIGNIFICANCE OF PYARTHROSIS IN SCARLATINA.—LÖFFLER has made the interesting discovery that there exists in the membrane of scarlatinous diphtheria a chain-shaped coccus. If one of these be introduced into a joint, inflammation soon results, and if simply introduced beneath the skin, an inflammation resembling erysipelas follows. He therefore concludes that probably the pyarthrosis accompanying this exanthem is due to the same cause. A case is cited in which a scarlatinous diphtheria, pursuing at first its ordinary course, became at length complicated with enlargement of the spleen and pericarditis with lung complications. On the tenth day fluctuation in the articulations of the second and third fingers of the left hand appeared. Three days subsequently, fluid was discovered in both knee-joints. A day later the boy died. Autopsy showed the presence of a purulent fluid in the joints already mentioned, and also in the ankle-joints. There was erosion of the articular cartilages, and in two of the fingers the epiphysis of the bones was destroyed by suppuration. Microscopic examination showed the presence of micrococci throughout the body and in the blood. They were very abundant in the affected joints, though in this situation the development had not proceeded so far as in the blood and on the skin, but the identity of the micrococcus in different parts of the body was undeniable. From consideration of all the facts, the conclusion is reached by Dr. Löffler that the infection primarily existing in the tonsils was, owing to an abrasion, carried secondarily by the blood throughout the body, thus causing the remarkable complication.—*Berlin. klin. Wochenschrift*, Nov. 3, 1884.

ULCERATIVE ENDOCARDITIS.—M. GRANCHER reported a case of ulcerative endocarditis to the Société de Thérapeutique which seems plainly to show the zymotic origin of the disease.

A man was long affected with heart disease, which finally showed the symptoms of ulcerative endocarditis without complications. The patient entered the hospital in a state of collapse. The case was diagnosticated as above, and experiments were at once begun to confirm the diagnosis. A drop of blood from the patient was taken each day. Every precaution necessary to accurate results was observed, and in all the flasks used for the culture there appeared in twenty-four hours at the bot-

tom of the vessel small granular masses made up of a conglomeration of very small micrococci. These were the same in every vessel. The patient finally died, and blood taken from the heart cavity gave by cultivation the same micrococcus. The aortic valves presented the common lesions of vegetative endocarditis, and microscopic examination of the surface of the valves showed the presence of the same organism.

Grancher intended to cultivate the micrococcus and to make inoculations to verify this observation, but unfortunately, when he resumed his investigations, he found the micrococci dead, and, some time having elapsed, all efforts at further cultivation failed, and experimentation was impossible. There seems to be no doubt, however, of the zymotic origin of the disease.—*Journal de Médecine de Paris*, Dec. 20, 1884.

Is the Removal of the Thyroid Body Warranted from a Physiological Standpoint?—The experiments of Zesas (which appear in *Archiv für klin. Chirurgie*, Bd. lxxv. Heft 2) upon the effect of the removal of the spleen and thyroid body, have given interesting disclosures concerning the function of these organs. During the experiments, extirpation of the spleen was alone well tolerated, but removal of the thyroid body was followed by striking manifestations. The animals for two weeks refused nearly all food, were drowsy, walked with tottering gait, and died usually in convulsions. These effects were also manifested in animals which had survived the removal of the spleen, and from which subsequently the thyroid body was removed. In them was also observed an enormous increase in the number of the white blood-corpuscles. In those animals from which the thyroid body alone was removed, the increase of the white blood-corpuscles was not so remarkable as it was in those in which the spleen only had been extirpated. Ablation of the thyroid body produced notable anæmia of the brain and hypertrophy of the spleen.

The lymphatic glands, especially those of the mesentery, were frequently greatly enlarged, and filled with a black pigment. It, therefore, appears from these experiments that the thyroid body not only has the function of acting vicariously for the spleen, but also plays an important part in regulating the supply of blood to the brain, and may, in fact, be considered as a special organ for this purpose. Zesas decides from his experiments that the removal of the thyroid body is not justifiable, and his conclusions are strongly supported by the results of this operation performed by Kocher on man for the scrofulous degeneration of the organ.—*Centralblatt für Chirurgie*, December 20, 1884.

Paralysis Resulting from Hypodermic Injections of Ether.—In the *Revue Médicale* for December 20, 1884, M. Arnozan calls attention to paralysis resulting from hypodermic injections of sulphuric ether. In four cases the paralysis of the muscles, affected by the puncture, appeared shortly after the injection was made. The paralysis seemed peripheral in its nature, as was shown by the attending changes in electrical excitability (suppression or diminution of faradic excitability, increase of galvanic excitability, return of voluntary motion before the return of faradic excitability); improvement was remarkably accelerated by the continued current. The question is how the ether produces the paralysis, whether by rendering the muscular fibre incapable of contraction, or whether by its injection the terminal intramuscular nerve filaments are disorganized. Experiments conducted by MM. Arnozan and Salvat, and practised upon a rabbit, show that the injection of ether produced on all occasions an almost instantaneous paralysis. After some days the rabbit was killed, and lesions of the nerve fibres were very distinct.

M. Arnozan concludes his observation by suggesting that in the hypodermic use of ether, care should be taken in all cases to avoid introducing it into the muscular tissue, simple subcutaneous injections being harmless.

Implication of the Sense of Hearing in Blenorrhagic Rheumatism.—Hermet, noting the rarity of this complication, discusses at length the condition as it existed in a case in which the clinical symptoms were carefully observed. The rheumatism affected various joints throughout the body, and it was noticed that amelioration of the general symptoms was alternated by loss of hearing, and, *vice versâ*, improvement in the auditory function was followed by return of the rheumatism elsewhere. The pain in the ears, during the attacks of deafness, was intense, all sounds, especially those of a high pitch, causing extreme pain. Examination of the ears revealed (in the left) a calcareous plate situated at the posterior border of the tympanic membrane, and which was probably due to the result of a former purulent otitis, which had followed a previous attack of rheumatism. The right ear was normal. Reviewing the anatomical relations of the ossicles and the tympanic membrane, Hermet logically concluded that the impairment of hearing is due to the extension of the rheumatic arthritis to the articulations of the ossicles. Accordingly, when the tympanic membrane, vibrating under the impulse of the sonorous waves, communicated motion to the chain of bones, pain was experienced, inasmuch as the attachment of the handle of the malleus to the membrana tympani necessitates motion in every articulation of the chain. The fact that during silence there was entire absence of pain, strongly confirmed the conclusions reached, and the observed alternation of the auditory and general manifestation of the disease left but little doubt of the correctness of the diagnosis—blenorrhagic rheumatism of the tympanic bones.—*L'Union Médicale*, December 25, 1884.

Plastic Operations upon the Palate.—M. Ulysse Trélat, in a paper on plastic operations upon the palate and the determination of the age at which it is proper to operate, reaches the following conclusions:

1. It is not necessary to perform plastic operations in this locality before the child has reached its seventh year.

2. Children who are to be operated upon should be carefully drilled in articulation of vocal sounds from the time they first begin to speak up to the time of operation, and the drill should be resumed at once after the operation. Functional cure is hastened and the ability to enunciate distinctly is rendered more certain by such a course.

Should harelip exist, along with cleft palate, the indications for operation are no longer the same. In such

cases, it is advisable to operate in the first month or within six months after birth. The measure of success, as relates to ability to articulate distinctly, here again depends upon careful training before and after the operation.

M. Trélat further remarks, concerning the operation, that when the division extends from the alveolar borders to the veil of the palate and palatine arch, success is possible, but failure often results. Plastic operation is unnecessary when the fissure is not of sufficient width to admit fragments of considerable size; simply bringing and retaining the parts in apposition is preferable.

Plastic operations are not dangerous. In forty-six cases operated upon by M. Trélat, all recovered. He operates with the patient in a horizontal position, the head bent far backward, so as to prevent as fully as possible access of blood to the bronchi. The food should be semi-liquid for ten or twelve days succeeding the operation. Cure ordinarily is effected in from four to eight days.—*Gazette Hebdomadaire*, Dec. 26, 1884.

The Radical Cure of Hernia.—At a recent meeting of the Surgical Society of Paris, M. Bouilly presented a patient upon whom he had operated for the radical cure of double scrotal hernia, with complete success. The patient was a man, 50 years of age, and the hernia so large that it reached to the middle of the thigh. Replacement of the bowel, so as to permit the wearing of a bandage, was the end to be attained, and with this result in view M. Bouilly operated. The sac was opened and the intestine easily replaced, and its descent prevented by closing the opening through which it had protruded. This was done by forming a pouch by suture of the sac at the neck, suture of the ring being impossible. The remainder of the sac, contained in the scrotum below the neck where the suture was made, was removed. The same operation was then performed on the other side. The wound was treated antiseptically and drainage-tubes introduced. Two days subsequently, inflammation was found to exist. This was the result of imperfect drainage, one of the tubes having been removed for the purpose of cleansing it, was improperly returned, and the pus was unable to escape. Fortunately, however, the inflammation did not extend to the peritoneum, and the patient recovered, and the application of a bandage prevented the protrusion of the hernia.—*Revue Médicale*, December 27, 1884.

Treatment of Blenorrhagia.—M. Edmond Delorine, in an exhaustive paper on the nature and treatment of blenorrhagia in man, arrives at the following conclusions, relative to the management of the affection:

Recent researches upon the nature of blenorrhagia have completely modified existing methods of treatment. Injections, employed from the first appearance of the disease, or from a time closely related to its first appearance, are at present used much more unreservedly than heretofore, and without any adjuvant, except hygienic measures. It is impossible, owing to dearth of exact information, to pronounce definitely upon the value of topical applications now so highly lauded, and a definite conclusion upon this point can only be reached after further investigation. Finally, preventative injections, after impure coitus, or in patients who manifest the first symptoms of the disease, deserve to be resumed. —*Archives de Medicine et de Pharmacie Militaires*, Jan. 1885.

Calomel in the Treatment of Otorrhœa.—Dr. J. Gottstein, in the *Archives of Otology*, Sept. to Dec. 1884, strongly recommends the use of calomel in the treatment of otorrhœa. He says: During the past year I have used the calomel by way of trial in a number of cases that have seemed suitable, especially such as could be submitted to daily observation.

I have satisfied myself (1) that the remedy is absolutely free from irritation to the mucous membrane of the middle ear; (2) that it forms neither upon nor in the mucous membrane any precipitate difficult of removal; (3) that surprising results are often obtained under its use.

Accordingly, since the beginning of the present year, I have, in my private practice as well as in my polyclinic, employed calomel in the treatment of all cases of otorrhœa in which, following Bezold's direction, I had previously made use of boric acid alone, or as a supplementary means. I withheld the calomel only from such patients as, coming from a distance, I had an opportunity to see but once.

My observations now exceed eighty in number, so that I feel justified in communicating the results of my experience with this method.

My method of procedure is as follows: The ear is, in the usual way, syringed carefully with a weak sublimate solution (one-tenth per cent.); the residue of the secretion is forced into the external meatus by the employment of Politzer's method, and then removed by syringing; and, finally, the ear is well dried with cotton.

The calomel (vapore parat.) is then blown in through a powder-blower,[1] and the auditory canal closed as well as possible by means of cotton. The further treatment is the same as with the boric acid.

That on which I lay the most stress is that calomel, in my opinion, has a much more certain and decided antiseptic action than the boric acid.

I am anxious to avoid the error into which those authors fall who overestimate the value of the remedies recommended by them. Calomel also fails in some of the cases in which powerful antiseptic action is desired, because considerable tissue alterations in the drum-cavity are absent. Yet I have, with no method of treatment, not even with the boric acid, attained such speedy results as with this remedy in acute as well as in chronic forms of otorrhœa.

The calomel is also suitable, as is the boric acid, for employment after operations in the middle ear, cauterization with nitrate of silver, the use of the galvano-cautery, and in conjunction with the alcohol treatment. In these cases, the powerful antiseptic action of the remedy is conspicuous.

[1] In my consultation hours, I make use of the powder-blower of Kabierski (*Centralblatt für Chirurgie*, 1883, No. 33), which I have found, after long trial, the most suitable for the treatment of the ear as well as of the nose and larynx. It has the advantage that it does not need to be filled for each case, that the insufflation can be made with ease and accuracy during the examination of the parts, and, finally, a separate tip can be used for each patient, a measure necessary for the attainment of a thorough antisepsis.

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NEPHRECTOMY IN INFANTS AND CHILDREN.

AT a recent meeting of the Clinical Society of London, the proceedings of which are recorded in the *British Medical Journal* for November 1, 1884, MR. GODLEE read a paper on a case of abdominal nephrectomy for sarcoma in a boy twenty-two months of age. The removal was accomplished without any difficulty; the cure was uninterrupted by a single bad symptom; and the child was discharged in six days. In six months, however, recurrence took place in the right iliac fossa; the tumor rapidly increased in size, passing down into the scrotum; and death ensued soon after.

Mr. Godlee, in his comments on the case, mentioned eight other examples of extirpation of the kidney for morbid growths in subjects of tender years. Including his own, the 9 cases show that 5 died of the immediate results of the operation, 3 recovered, but died subsequently of a recurrence, while 1 was well when last heard of. Despite these unfavorable results, and in view of the hopeless condition of these patients if left alone, he argued that attempts should be made to remove neoplasms at an early stage; but, at the same time, plead against interference when the growths had attained a large volume.

Unless we greatly mistake, the weight of opinion is against nephrectomy for tumors in children, and we believe that the majority of surgeons will endorse, so far, at any rate, as sarcoma in early life is concerned, the view expressed by Mr. Henry Morris, in the fifth volume of the *International Encyclopædia of Surgery*, which has just been issued from the press. He says: "It is probable that future experience will exclude from the category of cases for which nephrectomy, by any method, should be done, tubercular disease, and renal sarcoma in children, as well as cancer at any period of life."

We have before us the notes of 11 extirpations of the kidney for neoplasms in children, 10 being for sarcoma and 1 for adenoma, an analysis of which shows that the operation has thus far been of the most disappointing nature. It may be mentioned that the surgeons were Hueter, Jessop, Kocher, Czerny, Hicquet, Rawdon, Réczey, Little, Ollier, Sir Spencer Wells, and Godlee. Of the entire number, 8 perished from the immediate results of the operation, thereby showing a mortality of 72.72 per cent., and 3 recovered, namely, the cases of Jessop, Hicquet, and Godlee. Ten of the operations were by the ventral incision, of which 8 died; and 1 was by the lumbar incision, which recovered. Of the 3 recoveries, the patient of Hicquet remained well at the expiration of three months, the date of the last report; while the disease recurred, respectively, in six and nine months in the cases of Jessop and Godlee.

It will thus be seen that the immediate mortality was 72.72 per cent., and that the disease returned in 66.66 per cent. of the recoveries. In addition to this gloomy record, we have, however, to state that the operation does not prolong life, since the average duration of life was fifty days, as against an average life of between seven and eight months in the same class of subjects, when the disease is allowed to pursue its natural course.

While we are of the opinion that nephrectomy is unjustifiable in children the subjects of renal neoplasms, further experience may show that Mr. Godlee is right in asserting that interference is proper in the early stage of the affection, particularly as Kühn states that secondary growths are found in only 28 per cent. of sarcomata of persons of tender years. But when we consider that these cases rarely come under the observation of the surgeon until the tumor has attained a considerable volume, it can scarcely be expected that the future will show better results than those now recorded.

Although the extirpation of the kidney for sarcomata is an extremely lethal procedure in children, it is gratifying to know that the operation may be resorted to with an excellent prospect of a successful issue in the same class of subjects suffering from other renal lesions. Thus, of 2 ventral nephrectomies for hydronephrosis, at the age respectively of four and seven years, in the hands of Thiersch and Thornton, both recovered; while 2 additional cases for suppurative lesions, done at five and seven years by Baker and Bardenheuer, both by the posterior incision, were cured. Rawdon, however, had a death from suppuration of the opposite kidney after lumbar nephrectomy for rupture of the organ.

The greater success in these five cases was doubtless due to the comparatively short time required to perform the operation, and to the consequent less shock experienced by the patients. In addition to this element of success, the subjects were older, their average age having been seven years, as against four years for those suffering from tumors. Other points in their favor were the slight risk of hemorrhage, and the diminished danger of peritonitis, three of the kidneys having been removed through the loin. In the cases of tumor, on the other hand, the eight deaths followed the ventral method of operating, the fatal issue having been due to septic peritonitis in three, to collapse in four, and hemorrhage in one.

THE OBSTINATE VOMITING OF PREGNANCY.

The vomiting of pregnancy, although a common affection, has proved as unsatisfactory in theories as in therapeutics. It was formerly called sympathetic, and is now generally known as reflex—we have changed the name, but we have not thus added to our knowledge.

A somewhat curious fact which has been reported at different times, and to which our attention has recently been recalled by a Delaware physician who gives an instance under his own observation, is that the husband as well as the wife may suffer from the so-called morning sickness. This sickness simply results from a mental impression; seeing a person suffering greatly from nausea and vomiting, especially when one has a deep interest in the sufferer, may induce a similar condition in the witness. When one crosses the Channel in a crowded steamer, the passage being rough, and sees the numberless basins provided for the sick, and observes them in such constant use, even though he is ordinarily a good sailor, he may be compelled to confess to some nausea, even if he does not actually vomit.

While the nausea and vomiting of pregnancy prove in the great majority of cases an indisposition rather than a disease, disappearing about the fourth month —in others, obstinate vomiting may result in death. Cases of fatal vomiting in pregnancy are by no means numerous. Guéniot, in 1863, gave only 118, and Kleinwächter more recently refers to the rareness in German literature of simple cases of obstinate vomiting. Nevertheless, the distressing character of the vomiting and the possibility of a fatal result being present in each case, lead us to turn with interest to a paper recently read by Dr. Graily Hewitt before the London Obstetrical Society upon the subject, and the discussion which followed, which may be found in the current London weeklies.

Dr. Hewitt, who is nothing if he be not the chief representative of the mechanical pathology of uterine diseases, brings physical views to explain the obstinate, uncontrollable, or incoercible vomiting of pregnancy. His explanation of the disease is that it results from interference with the normal expansion and growth of the gravid uterus. This interference may arise from incarceration in the bony pelvis of the uterus with version or flexion, or from rigidity and undue hardness of the os and cervix; the former he considers the more important factor.

Of the nine gentlemen participating in the discussion, not one sustained Dr. Hewitt's views in full, and, indeed, only one or two gave them even a partial support. Two of the gentlemen, Drs. Hicks and Bantock, stated that they had never seen uncontrollable vomiting, while, on the other hand, Dr. Matthews Duncan, whose line of thought rarely coincides with that of other men, or who at least sometimes deals in verbal contradictions, stated that "he knew no controllable vomiting of pregnancy." This statement seems to illustrate what Lord Bacon called "an unsteady use of words," confusing the reader.

Dr. Barnes held that the vomiting of pregnancy is "a safety valve for nervous energy, and a safeguard against nervous seizures, such as eclampsia," while Dr. Playfair stated that "it was a neurosis of an intense degree." Neither theory is satisfactory, for a woman prostrated almost unto death by vomiting has no superfluous nervous energy and yet she continues to vomit, and the assertion that the disorder is a neurosis is unproved. Moreover, naming a thing a neurosis does not tell us what it is.

When theories so utterly fail of establishment, and give no clear directions in therapeutics, the majority of practitioners will probably go on in the old way, first treating each case according to its conditions, and then, no obvious local disorder being present, mainly in an empirical way.

Doubtless some patients vomit because the uterus is displaced, and the physician will correct the displacement, if he can. But such cases by no means constitute the majority. In still rarer cases, the disorder may result from rigidity of the cervix, and then the Copeman method of digital dilatation may prove useful; yet we believe that if all the cases in which this method has failed were published, they would far outnumber those in which it has succeeded. Bennet's method of applying nitrate of silver to the cervix, revived by Dr. Sims and by Dr. Jones, may be required in some cases. But when all the patients amenable to these methods of treatment are numbered, the great majority remain for whom we have nothing to offer but empiricism, and we will use one or several of those remedies—such as tincture of nux vomica, small doses of ipecacuanha, or of arsenic, belladonna, morphia, ether spray to the epigastrium, oxygen, etc., possibly even pop-corn or inogluvin—which have proved or been believed useful in other cases of the disorder.

INTERCHANGE OF NERVE FUNCTIONS.

THE subject of the reunion of severed nerves has always been an interesting study to the physiologist, and a very important one to the practising physician. That cut nerve trunks can reunite if possessed of the same function—that is, motor nerves to motor nerves and sensory nerves to sensory nerves—is not now doubted. But all attempts to unite the cut end of a purely sensory nerve to the cut end of a purely motor nerve have failed. Quite recently, however, DR. EDWARD T. REICHERT has repeated these experiments in a modified form, in the laboratory of Prof. Schiff, at Geneva, and his results are published in the *American Journal of the Medical Sciences* for January. His object was to determine whether fibres of nerves of entirely different origin and function, though still motor or sensory, would unite, and should regeneration occur, to ascertain whether a motor nerve was capable of conveying impulses peculiar to another motor nerve, and a sensory nerve impulses peculiar to another sensory nerve. To this end, the vagus and hypoglossal nerves were selected as being of distinct origin and function and as affording the best facilities for observation. Five dogs were prepared by Prof. Schiff by cutting the hypoglossal on one side close to its exit from the cranium, and the vagus at the thyroid gland. The *peripheral* end of the *hypoglossal* was sutured to the *central* end of the *vagus* by a silk thread through the neurilemma.

We have not space to detail the experiments, but the result proved that the motor fibres of the vagus in the five dogs operated upon, united to similar fibres of the hypoglossal, and that the hypoglossal fibres conveyed impulses which were peculiar to the vagus apparatus. They showed, moreover, that in at least one dog, irritation of the sensory fibres in the hypoglossal trunk gave rise to impulses which were conveyed by the sensory fibres of the vagus to the vagus centres, and produced effects like those induced by excitation of the vagus trunk, thus proving in both instances that a motor or sensory nerve can convey impulses peculiar to another motor or sensory nerve of entirely different origin and function. They indicated likewise that, at least in some nerves, the effects produced by impulses from the periphery are not dependent upon any peculiarity of the impulse due to physiological peculiarities of the peripheral sense-organs or nerves, but upon the peculiar physiological properties of the nerve centres. Hence we have respiratory movements, etc., occurring in the tongue, brought about by impulses from the vagus centres through the hypoglossal nerve, and effects on the respiration, pulse, pressure, and vomiting centre through impressions carried to the vagus centres by impulses generated in the hypoglossal.

At least three physiologically distinct sets of motor fibres were united with fibres of the hypoglossal, namely, fibres conveying inspiratory impulses, fibres conveying expiratory impulses, and fibres conveying œsophageal impulses, the first two doubtless consisting of fibres going through the recurrent laryngeal to the muscles of the larynx, and the latter set forming part at least of the fibres belonging to the same branch.

These are very important results, and they prove that the functions, at least of nerves of general sense and motion, are based upon the nerve centres rather than upon peripheral distribution. It will be noted, however, that they do not show that severed motor nerves can be united to severed sensory nerves, but that sensory nerves of one trunk will unite with those of another trunk in a mixed nerve conducting an entirely different sort of sensory impressions from those conducted by the nerve with which the union took place. The same is true of motor nerves.

The experiments also showed that a sensory nerve can be made to conduct impressions in a direction opposite to that in which it originally conducted. Thus the sensory fibres in the trunk of the hypoglossal, at the point of union with the vagus, are recurrent fibres (sensory fibres coming from the superior cervical nerves, through the descending branch of the hypoglossal, and from that branch toward the centre), and, therefore, normally conduct impressions not directly toward the centres, as is usual with sensory nerves, but first peripherally, making a circuit, as it were, before reaching the centres. Since, therefore, the sensory fibres of the hypoglossal, uniting with the sensory fibres in the vagus conducted impressions to the vagus fibres, it is evident that these impressions were conducted in a direction contrary to that of the normal. Thus, too, were confirmed the results of the famous experiment of Paul Bert, who laid bare the back of a rat and a part of the end of the tail, and caused the latter to grow to the former. After union was established, the tail was cut from the body at the root. He now found that when he irritated the end of the tail, formerly the root, the animal gave signs of pain, thus showing that the impression was conveyed in a direction opposite to that of the normal route; or, in other words, that the nerve which formerly conveyed impulses from the end of the tail toward the root, now conveyed impressions in an opposite direction.

GASTROENTEROSTOMY.

IN the *Correspondenzenblatt für Schweizer Aerzte*, for November 1, 1884, may be found the report of what must be regarded as the most remarkable case of gastric surgery that has as yet been recorded. On the 15th of July, 1883, PROF. SOCIN resected the carcinomatous pylorus of a woman, forty-three years of age, who subsequently enjoyed excellent health for upwards of eight months. At the expiration of this time, she began to be troubled with symptoms

of dyspepsia; and on the 23d of May, 1884, a recurrent tumor, adherent to the abdominal wall, the pancreas, and the liver, was discovered. On the 5th of June, gastroenterostomy was practised; the patient made a rapid recovery, and at the end of four months her digestion was excellent, she had slightly gained in weight, and the tumor had only increased in volume.

The establishment of an opening between the jejunum and the stomach, to insure the passage of food into the intestinal canal, and thereby prevent death from starvation in cases in which pylorectomy is contraindicated, has been resorted to at least twelve times for carcinoma of the pylorus, the operators having been Wölfler and Lauenstein, each in two cases, and Billroth, Rydygier, Kocher, Monastyrski, Lücke, Courvoisier, Ransohoff, and Socin, each in one case. Of the twelve, nine, or seventy-five per cent., died; and three, or twenty-five per cent., recovered. Of the recoveries, two were living at the end of four months, and one at the expiration of six months. Rydygier, in March, 1884, had a success in a case of ulcer of the duodenum.

These results indicate that gastroenterostomy is as deadly an operation for carcinoma as is pylorectomy. It has, however, succeeded in prolonging life in one case out of every four, so that the patient may be given the chance if it be desired.

Among the more recent attempts to establish a communication between the stomach and the intestine, is the novel case of Dr. Conner, of Cincinnati, which is recorded in The Medical News for Nov. 22, 1884. The entire stomach was extirpated "with the hope of attaching the cardiac end to some portion of the intestinal tract, so that the fluids poured out in the upper part of the small intestine might flow down to meet the food, and cause digestion in the part of the intestine where they come together." As the patient died upon the table, the operation was not completed. However feasible it may be, so far as surgical procedures are concerned, we fail to see that, in the event of recovery, it could be of any service, from the fact of the supply of the gastric juice being entirely cut off. Hence, we trust that the operation will not find imitators.

ORIGIN OF BLOOD GLOBULES.

The origin of blood corpuscles is as fruitful a source of speculation and observation as are the theories of life itself, and is likely to continue so until more positive and direct demonstration is brought to bear upon the processes which underlie it. In our issue for December 6th, we called attention to some observations by Prof. Rindfleisch, based upon a report of two cases in which hæmatoblasts or nucleated red corpuscles were found in the lymphatic glands, which tended to show that the formation of red blood disks is sometimes partly transferred to these glands. Since then we have been informed of other instances of red or raspberry-colored lymphatic glands, and our attention has been called to a paper by Dr. A. W. Johnstone, entitled "Experimental and Microscopical Studies on the Origin of the Blood Globules," published in the *Archives of Medicine* for August, 1881, in which he states that red blood disks are to be found in most sections of lymphatic glands, although they are very scanty, and he infers that the formation of a few red blood disks is a normal function of all lymphatic tissues. In a later note to us, Dr. Johnstone suggests that an increased or compensatory function of this kind is assumed by the lymphatic glands in animals which survive the operation of splenectomy, while in other cases it may so far increase, at times, as to become pathological, as in Prof. Rindfleisch's cases.

We have only one suggestion to make with regard to the presence of red blood corpuscles in the normal lymphatic glands. It must be remembered that these glands are vascular, and that in the sections made of them in the fresh state for microscopic study, the little bloodvessels must be cut across, and the blood corpuscles thus escape. Can it be that the red disks which thus escape are sufficient to account for those found in Dr. Johnstone's sections?

REVIEWS.

A Manual of Diseases of the Throat and Nose. By Morell Mackenzie, M.D., London. Vol. II. Diseases of the Œsophagus, Nose, and Naso-Pharynx. 8vo. pp. 550, Philadelphia: P. Blakiston, Son & Co., 1884.

The Same. Pp. 400. New York: William Wood & Co., 1884.

The present volume—the second—completes a literary labor undertaken by the author some twelve years since, and has followed the first volume after an interval of four years.

In a notice necessarily as brief as the present one we can do little more than congratulate the writer and attest our appreciation of the energy that has dictated midst manifold professional duties the undertaking of such an extensive literary task and of the skill, fidelity, and thoroughness with which it has been accomplished.

The first volume of Dr. Mackenzie's manual was quickly endorsed by the profession upon its intrinsic merits and became widely recognized and accepted as a standard work—not alone on account of the enviable reputation of its author, but likewise for its practical value as a text-book and its utility as a work of reference in the special subjects of which it treated.

The present second volume, modelled on the same general plan as its predecessor, and dealing with the

diseases, etc., of the œsophagus, the nose, and the naso-pharynx, fully sustains both the author's reputation and that of his work. Again, we have presented in compact and readable form the collated results of extensive bibliographical research, the thorough and painstaking compilation of the recognized work of others—and in pointing out this fact we are not unmindful that judicious compilation is an art that is alike necessary and productive of the most useful results—and finally the well-considered expression of a careful, personal study of the subject at issue—all matters being treated in a broad and scientific spirit.

One element alone, we venture to remark, is often lacking, and its omission forces itself upon the attention of the careful reader. The impress of authorship, it is true, everywhere exists throughout the pages, but that of the author's individuality will often be vainly sought for.

Dr. Mackenzie's exceptional experience in observing the diseases with which he deals fully equips him to assume and fufil the *rôle* of teacher, to him and to his published work, the profession, as a matter of right, look for guidance in the matter of this special class of affections.

With undue modesty, however, he too frequently prefers to recount the experiences of others in preference to his own, and the desire of the reader to learn the latter is hence doomed to disappointment.

No more striking commentary on the very rapid advances that are being made in all the departments of the specialty could be found than exists in the very pages before us. Although but a short time has elapsed since the work has left the author's hands, important additions have already been made to our store of knowledge; these are, as a matter of course, not included in the present edition. Notably is this the case in the matter of the pathology and pathological anatomy of the affection termed "hay fever," which is treated of at some length, according to the older views, by the author.

The latter alludes to the never-ceasing work imposed by such frequent modification of views and the constant additions to literature; but after all, in reality, the omissions to which we allude serve only by their infrequency to add additional emphasis to the opinion above expressed as to the general completeness of the work.

As originally planned, and as advertised, Dr. Mackenzie's work was to have inc[illegible] section on diseases of the neck. This he has been obliged to omit, the sections on diseases of the nose and naso-pharynx having grown under his hands to such dimensions that it has been found impossible to include it and retain the book within reasonable limits. It is promised, however, as to appear shortly in a separate form, as one of the series of "Essays on Throat Diseases," with which the author's name has been long and favorably identified.

It is unnecessary, perhaps, to add that we entertain a high opinion of Dr. Mackenzie's treatise; the more that it is carefully studied, the more valuable will it appear, and the more apparent will become the obligation of both general practitioner and specialist to its distinguished author.

ELEMENTS OF SURGICAL DIAGNOSIS. By A. PEARCE GOULD, Assistant Surgeon to the Middlesex Hospital, London. 12mo. pp. 584. Philadelphia: Henry C. Lea's Son & Co., 1884.

ALTHOUGH issued as a student's manual, this book will be found to be a most useful guide for the hard-worked practitioner. Some parts bear evidence of hasty composition, and a few points are omitted which should have been inserted, but these faults will doubtless be remedied in a future edition, and are more than compensated for by the general excellence of the work in its entirety. Mr. Gould's style is eminently clear and precise, and we can cordially recommend the manual as being the outcome of the efforts of an honest and thoroughly practical surgeon.

SOCIETY PROCEEDINGS.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, January 15, 1885.

THE PRESIDENT, FORDYCE BARKER, M.D., LL.D., IN THE CHAIR.

THE ANNUAL ELECTION OF OFFICERS

resulted as follows:

President.—Dr. A. Jacobi.

Vice-President.—Dr. C. C. Lee.

Corresponding Secretary.—Dr. L. Elsberg.

Member of the Board of Trustees.—Dr. A. L. Loomis.

Member of the Committee on Admissions.—Dr. A. S. Hunter.

Member of the Committee on Medical Education.—Dr. F. R. Sturgis.

Member of the Committee on Ethics.—Dr. A. H. Smith.

Member of the Committee on Library.—Dr. E. D. Hudson.

ANNUAL REPORTS OF OFFICERS.

The reports of the Council, the Treasurer, the Statistical Secretary, the Board of Trustees, and the Treasurer of the Board of Trustees were read. The report of the last named showed that during the past year $1880 were contributed toward the liquidation of the mortgage on the property of the Academy, thus lessening the annual expenses of the institution by one hundred dollars. A systematic effort is now being made by a special committee having the matter in charge to raise funds to pay off the entire indebtedness, amounting now to only $5000, and there [illegible]ood reason for supposing that this desirable result will ere long be accomplished.

The report of the Committee on Library, which was read by Dr. John C. Peters, showed that the library of the Academy now contains about 35,000 bound volumes and 9000 pamphlets. During the past year there have been added to it 1278 bound volumes, 1875 pamphlets, and 7814 medical journals.

DEMONSTRATION OF KOCH'S CHOLERA BACILLI.

DR. E. C. WENDT exhibited under the microscope a specimen of the cholera bacillus, which had been sent to him by Dr. Koch. The bacilli were shown under a power of 2000, and in another microscope of 1200 power specimens of bacteria from the mouth were placed on

exhibition. Even with this lower power the difference between those which resembled the cholera bacillus and the genuine cholera microbe were readily distinguishable.

EXHIBITION OF NEW INSTRUMENTS.

Dr. N. D. Schuyler exhibited an obstetric forceps devised by himself. Its characteristics were a well-marked pelvic curve, a rather short cephalic curve, and shanks which were shortened, closely approximated, and having a decided curve upward. Among the advantages claimed for this instrument are the facility of delivery when the *ostium vagina* was small and when the perineum was very much elevated, as was apt to be the case in primiparæ, and the ability to use it without the necessity of the patients being removed to the edge of the bed.

Dr. Schuyler also exhibited a vaginal speculum, which, he said, possesses the following desirable points: (1) It is easily introduced; (2) when *in situ*, it affords the largest possible field for observation; (3) it is self-retaining and it gives the patient no pain or discomfort; (4) with it the uterus can be fixed and held in a steady position. It is a combination of Sims's, Thomas's modification, and Nott's specula, and consists of a posterior blade, two lateral blades, and a depressor, which also performs the function of an anterior blade. The lateral blades and anterior depressor are worked by levers and held by screws; they move up and down on a standard placed in the handle of the instrument. The posterior blade (Sims) is quite narrow for the first three-fifths of its length, and then gradually widens until it terminates in a stem for the handle and two wings, to which are attached the other blades and depressor. The hard-rubber handle and the anterior depressor are so arranged as to be readily removed. Both instruments are made by Tiemann & Co.

Dr. F. A. Castle remarked in regard to vaginal specula that the instrument originally designed by the inventor was apt to be greatly modified by the manufacturers. Thus the original speculum of Dr. Nott, which was designed to be used exclusively in the Sims position, was very different in character from that which is now ordinarily sold in the shops under the name of Nott's speculum. The alterations seemed to have been made so that the instrument could be used with the patient on the back.

Dr. W. Gill Wylie read a paper on

DISEASES OF THE FALLOPIAN TUBES; THEIR RELATIONS TO UTERINE DISPLACEMENTS, AND THE USE OF PESSARIES.

The paper being of considerable length, he was obliged, he said, to omit a large portion of it in the reading. He remarked in the outset that while the German authorities had long devoted much attention to the pathology of affections of the Fallopian tubes but little advance had been made in their treatment, until Mr. Lawson Tait had made known his great success in the removal of diseased tubes. Batty and Hegar, as well as Sims, had also, however, contributed to our knowledge of the subject.

Since May, 1883, Dr. Wylie said he had operated in 14 cases; 9 of them being at Bellevue Hospital and 5 in private practice. Of the 14 patients, 12 recovered and 2 died. Both of the latter were hospital cases and both died of septicæmia on the fifth day. Eight of the cases were of pyosalpinx, two of hydrosalpinx, and four of catarrhal diseases of the tubes, with peritoneal adhesions. With five exceptions, the ovaries themselves were also diseased, and attached to the tubes by adhesions.

An increased knowledge of disease of the tubes, he thought, would do much toward clearing up the subject of local peritonitis, which was often erroneously attributed in this country to cellulitis. Retroflexion and lateral versions of the uterus, with adhesions, were also frequently due to salpingitis. When such was the case, it could readily be understood how much injury might result from the use of pessaries under these circumstances. With the light thus thrown on the subject, the mechanical theory of uterine displacements would, he believed, sink into insignificance, and the space which had heretofore been given to it in the text-books would henceforth be devoted to a consideration of the diseases of the Fallopian tubes, with their consequences and treatment.

As to the etiology of these affections, as a rule, they were due to the extension of some pathological process from the lining membrane of the uterus to that of the tubes. In virgins salpingitis was comparatively rare. Gonorrhœa he believed to be a frequent cause of such disease, and in stating his convictions on this point a number of years ago, Dr. Noeggerath had been well in advance of the scientific thought of the profession. Whether he had as yet succeeded in establishing the invariable presence of the gonococci he was not able to state. Among prostitutes the sterility that was so common he thought was accounted for by the frequent existence of salpingitis in this class of women. This sterility, it had been noticed, was apt to continue even after such women had abandoned their evil life and married. When gonorrhœal inflammation reached the endometrium, it was unsafe to resort to local treatment during the acute stage, on account of the danger of producing peritonitis, and the pathological process was exceedingly apt to spread to the Fallopian tubes. The latter often became greatly distended on account of there being a stricture at their proximal extremities.

Other causes of salpingitis were syphilis and septic poisoning after abortion and later at full term. It was now frequent after abortion, because subinvolution and endometritis were more liable to occur after it than after ordinary labor, from the fact that the same precautions were not taken after the former. It had been found that local peritonitis was much more common over the posterior surface of the broad ligaments than over the anterior, and this was undoubtedly due to the fact that the Fallopian tubes opened upon the posterior surface. His experience, Dr. Wylie said, had led him to attach much more importance to localized peritonitis than to cellulitis, and while phlegmons were sometimes met with in the pelvic cellular tissue, he no longer believed in the existence of the so-called chronic cellulitis. Hystero-epilepsy and similar conditions, he thought, were always associated with degeneration of the ovaries accompanied with a catarrhal condition of the Fallopian tubes.

In treating of the symptoms of salpingitis, he omitted a consideration of the subjective manifestations, as there

was nothing to distinguish them from those of other diseased conditions of the pelvic organs. Pain in the iliac region, he remarked in passing, however, was much more marked in pyosalpinx than in other affections of the tubes. As to the objective symptoms, they might not be understood by an inexperienced observer; but they were plain enough to the expert, if he took proper care. It was his own practice to subject his patients to a prolonged course of preparatory treatment, consisting principally of applications of glycerine and alum; and where this had been done, he believed that a positive diagnosis could almost always be made with ease.

For our knowledge of the pathology of salpingitis, he continued, we had to depend entirely on the German writers, who had given a full and accurate account of it. As had been before remarked, the affection was almost always due to an extension of an inflammatory process from the endometrium to the tubes. The manifestation of the diseased action, however, differed in accordance with the difference of the parts in size, shape, and the character of the mucous membrane of each. Moreover, as the tubes could not be reached by local treatment, salpingitis almost always caused a greater or less amount of peritonitis, and almost always became chronic. If it were supposed that the uterus was enlarged and bent backward, and that the tubes were involved in an inflammation extending from the endometrium, it could be seen how lymph pouring out from them into the peritoneum would be likely to produce attacks of peritonitis. As the process went on, the broad ligaments would become rolled up with the tubes, and the ovaries be firmly fixed in them. Under such circumstances the pain produced by pessaries, warned us against their use; but if this was persisted in, there was great danger of causing thereby a rupture of the inflamed tubes, which were usually swollen and filled with infectious matter. If one of the tubes only was affected, it was usually the left.

Having spoken at further length of the surgical pathology and the manner in which the displaced uterus became fixed as a consequence of the salpingitis, Dr. Wylie referred to the treatment in cases with adhesions, where operative interference was not permitted. Instead of attempting to keep the uterus in position by means of pessaries, he said he was satisfied if he could get the organ in a movable condition by restoring the surrounding pelvic tissues to a normal condition, as far as possible. He had succeeded in tapping three cases. One of them was cured by the procedure; but he believed that it was in reality a case of abscess forming in the site of an old hæmatocele. The others were benefited, but not cured, by the tapping; and the only cure for these cases he believed to be the complete removal of the ovary and tube on both sides.

The concluding part of the paper was devoted to the best methods of performing this operation. In opening the abdomen, he believed, it was important that a small incision should be made. It should not ordinarily be longer than three fingers' breadth; which would allow the free use of two fingers. If a larger opening were made, ventral hernia was liable to result, because the abdominal walls had not been previously distended, as was the case when there were large tumors present. It was also important after the removal of the ovaries and tubes to secure perfect apposition of the deep fascia lata. It was his practice to feed his patients solely upon pancreatized milk for a few days before operating upon them, as this had the effect of greatly diminishing the quantity of gas in the intestines and reducing them to such a flaccid condition that they were not likely to interfere with the operation. When the omentum was found to be in the way and held fast by adhesions, he advised that the operator should get two fingers underneath it in one of the fossæ; when the adhesions could easily be separated. No hemorrhage was likely to result from this procedure; but when there was any hemorrhage it came from the omentum, and any vessels could thus be readily ligated if this should be necessary. In order to get at the ovary with facility, it was advisable to elevate the uterus and unroll the convoluted broad ligament.

DR. EMIL NOEGGERATH said that he differed very little from Dr. Wylie in his opinions on this subject; but there were a few points upon which he should like to say a word. In regard to the name, "Tait's operation," it had been clearly shown at the late International Medical Congress at Copenhagen that this was a misnomer, since long before Tait had published his brilliant results (as early as September, 1879), Hegar had reported no less than forty-two cases. Tait's claim to have the operation named after him could, therefore, be based only on the large number of times and the success with which he had performed it; and, he thought, in speaking of this, as well as other operations, it was much better to omit mentioning any name at all, as it was almost always liable to raise the question of priority. Personally, he was of the opinion that most cases of salpingitis were caused by gonorrhœa. He had for a long time been engaged in special studies to demonstrate the presence of gonococci, but had not as yet succeeded. The gonococci was also a diplococcus, and four kinds had been observed in the vagina. The difficulty was that no gelatine had yet been found in which the gonococcus could be raised; since in every preparation that had been tried, they would not grow in the second, third, and fourth generation. After the disease had lasted for several week, the gonococci were found in such small quantity that they could be only raised in gelatine; and, as had just been stated, no gelatine suitable for this purpose had as yet been secured.

As to the relations between salpingitis and the inflammatory processes resulting therefrom, and dislocations of the uterus, he believed that lateral versions combined with anteversion were the distinctive form of displacement dependent on this disorder. Retroversion was met with in exceptional cases, in connection with pyosalpinx and hydrosalpinx; but in the great majority of cases of salpingitis, where the amount of exudation was not extreme, but the uterus was immovable, or only slightly movable, there would be found anteversion with slight lateral version. Retroversion with adhesions was rare in his experience.

In the diagnosis, two varieties were noticed: (1) ordinary salpingitis, with slight secretion, and (2) salpingitis in the later stages with pyo- or hydrosalpinx. It was not necessary to feel the tubes themselves in order to make a diagnosis, since perimetritis without salpingitis was extremely rare. The shape of the tumor, in cases in which this could be made out, was, however, of

great importance. It was, as a rule, divided into three sections, conical in outline and running in the direction of the lateral diameter of the pelvis. As to the treatment in the extreme cases, nothing could be done except to resort to operation; but the large majority of cases were not ready for so radical a procedure, and something else had to be done for them. There was one kind of treatment which was much more successful than any other of which he was aware, and that was a sojourn at Fransensbad, in Bohemia; and he had seen a number of cases which had been practically cured by this, which for years had resisted all sorts of treatment, both in Europe and America.

Dr. A. J. C. Skeene, of Brooklyn, agreed with Dr. Noeggerath that it was a rare thing to see salpingitis, unless it had been produced by gonorrhœa. On the other hand, he differed from Dr. Noeggerath in believing that perimetritis without the tubes being affected was not at all rare. In the matter of diagnosis, he thought it was very difficult to distinguish between an enlarged tube, especially in the condition of hydrosalpinx, and a cystic ovary in Douglas's cul-de-sac. There was one point that had been overlooked, and which he thought was of service in making a diagnosis, and that was aspiration. If ciliated epithelium was so common in pyosalpinx and hydrosalpinx as had been represented, it was only necessary to draw off more fluid and examine it. Out of 21 specimens which he had investigated, the epithelium was found in 18. This raised the question of treatment, and he believed that it was a fact that many cases had been operated on before other measures had been given a fair trial. This he believed to be due to a large extent to Tait's example and success; and he thought that operation should never be resorted to until more conservative means had been thoroughly tried. In pyo- and hydrosalpinx, aspiration might perhaps sometimes result in a cure; the tube not refilling after the fluid had been withdrawn. Aspiration, therefore, he thought might prove useful, both as a means of diagnosis and of treatment.

Dr. P. F. Mundé said that ever since the publication of Dr. Noeggerath's article on gonorrhœa, in 1872, and more particularly since Mr. Tait had announced his great success in operating in cases of disease of the Fallopian tubes, he had paid considerable attention to this subject, and especially in regard to the matter of diagnosis. He was, however, not as yet satisfied on this point, and he thought that Dr. Wylie had failed to throw additional light upon it in his paper this evening. In the cases in which it was most needed, it was at present impossible to arrive at a positive diagnosis. In well-marked instances of pyo- and hydrosalpinx, there was not this difficulty, and in such cases he had twice performed aspiration without the subsequent refilling of the tubal sac. The cases in which Dr. Wylie had operated seemed for the most part to be those of the kind in which there were diffuse thickening and infiltration in each broad ligament, with the occurrence of pain and a discharge of purulent matter at irregular intervals. In such cases, he did not see how it was possible to make a positive diagnosis without resorting to laparotomy; and until we could perform this operation with the same success as Tait in England, he thought it was advisable not to attempt it. Under any circumstances, he did not believe that gynecologists would perform laparotomy very often in this condition. In certain instances in which the diagnosis was obscure, but in which the patients were willing to run the risk, he had himself operated, with the result of one death; but it was now his conviction that we were only justified in performing laparotomy in those cases of salpingitis in which a sausage-shaped tumor was present and there was no room for doubt about the diagnosis.

As to displacements, in connection with salpingitis, he believed that retroversion was as common as anteversion, although he agreed with Dr. Noeggerath that in the majority of cases of retroversion the uterus was not bound down by adhesions. In the way of treatment, beyond the use of hot vaginal douches, etc., he did not think there was much to be done except laparotomy in appropriate cases. In a number of instances, however, he had seen considerable benefit derived from the use of the galvanic current, and he advised that it should be applied every other day or perhaps every day for from fifteen to thirty minutes with a battery of from twelve to sixteen cells. By this means the diffuse swelling could sometimes be reduced and the pain suffered by the patient diminished. Still, he did not believe that cases of hydrosalpinx could be cured by this means.

Dr. Wylie, in closing the discussion, remarked that in the reading he had been obliged to omit some of the more important points of his papers for lack of time, and particularly in regard to the preparatory treatment which was often necessary before a correct diagnosis could be arrived at. If Dr. Mundé would adopt this plan, he did not believe that he would have the difficulty in making out the diagnosis of which he had spoken. It was his practice to make applications of glycerine and alum on a thin pledget of cotton two or three times a week, for at least six weeks, and sometimes he kept them up for three months. Then, at the end of this course of preparatory treatment, he was in the habit of putting the patient under ether; when, the thickening of the tissues having been relieved by the glycerine and alum applications, there was usually no difficulty whatever in determining the exact size and shape of the Fallopian tubes. But even if one did not feel positive that the tubes were diseased, there could be little doubt that the ovaries were in an abnormal condition; and he had rarely ever met with disease of these organs without the tubes also being affected. In all the fourteen cases in which he had operated, there was hardly one in which there was not more or less perimetritis. He, therefore, did not feel in doubt in regard to the diagnosis in these cases; and in all the more recent ones in which he had performed laparotomy, he had been enabled to announce to his class the exact condition which would be found on opening the abdomen.

As to aspiration, he had himself employed this; but not in the way that Dr. Skeene had suggested. The simple drawing off of the fluid could not, he believed, cure the patient, because in these cases of salpingitis a pyogenic membrane was formed, which would continue to cause accumulations. Diagnosis by aspiration had been proposed by Dr. Ferguson; but he believed it was safe to follow Tait's admonition, not to tap tumors which are to be operated upon. The cases in

which he had resorted to aspiration were those in which drainage was required. In the matter of displacements of the uterus in connection with salpingitis, his experience went to show that in women who had not borne children anteversion and lateral version were usually met with; but that in those who had borne children, the salpingitis was nearly always associated with retroversion.

REPORT OF THE COMMITTEE ON MEDICAL EDUCATION ON A STATE BOARD OF EXAMINERS.

For the Committee on Medical Education, Dr. C. C. Lee reported in regard to a series of resolutions which had been reported to it at the last meeting, recommending that the Academy should urge the passage of a bill by the Legislature providing for the formation of a State Board of Examiners, with power to grant licenses to practise medicine; that in the opinion of the Committee, it was inexpedient that the Academy should adopt such action at the present time.

THE NEW YORK COUNTY MEDICAL ASSOCIATION.

Annual Meeting, January 19, 1885.

THE PRESIDENT, WILLIAM DETMOLD, M.D., IN THE CHAIR.

THE ANNUAL ELECTION OF OFFICERS

resulted as follows:

President.—Dr. Charles A. Leale.

Vice-President.—Dr. Edward G. Janeway.

Recording Secretary.—Dr. P. Brynberg Porter.

Corresponding and Statistical Secretary.—Dr. Charles S. Bull.

Treasurer.—Dr. Whitman V. White.

Member of the Executive Committee.—Dr. William T. White.

THE TREASURER'S REPORT

showed a balance of $511.79 in the treasury.

DISTRICT ASSOCIATIONS.

On motion of DR. J. W. S. GOULEY, the following resolutions were adopted:

Resolved, That the President of the New York County Medical Association appoint a committee of three, with power to increase its number, to take into consideration the propriety and expediency of organizing district associations in New York City, as branches of this Association.

Resolved, That in case this committee should decide to report in favor of the foundation of such district associations, they be authorized to prepare a plan of organization, to be presented to this Association for action at as early a date as practicable.

The Chair appointed on this committee Drs. Gouley and A. Flint, Jr., and empowered them to select the third member of the same. On motion of Dr. A. Flint, Jr., the Secretary was requested to preserve copies of all papers read before the Association, and the discussion thereon published in the medical journals.

ADDRESS OF THE RETIRING PRESIDENT.

DR. DETMOLD, on vacating the Chair, made a few valedictory remarks, in the course of which he spoke of the remarkable success that the Association had achieved in the first year of its existence, which, he said, would forever serve to mark one of the most brilliant events in the medical history of this country. In his own professional career of over fifty years, there was nothing upon which he now looked with so much pride as the fact that he had been selected as the first President of the New York County Medical Association. Finally, he referred to the permanent value of the discussions upon them, requesting, in conclusion, that there might always be a full attendance at the meetings for the encouragement of those who would read papers in the future. Having thanked the members for their courteous indulgence toward him and for their very cordial coöperation in the admirable work of the past year, he bespoke the same for his successor, and then proceeded to introduce

THE PRESIDENT ELECT, DR. LEALE,

who, on taking the Chair, read a brief address, in the course of which he made several suggestions which, he thought, would increase the efficiency of the Association. One of them was, that the transactions of the Society should be published in permanent form. Having referred to the remarkable clinical advantages now afforded in New York, he suggested that reports of special cases would always prove of interest, and expressed the hope that every member would endeavor to contribute his part toward the scientific proceedings, however humble that might be. The suggestion made in the resolutions offered by Dr. Gouley he thought was an excellent one, and he said that he did not doubt that, if practically carried out, it would do a great deal toward increasing the interest in the Association on the part of the profession in all parts of the city.

NEWS ITEMS.

THE MILWAUKEE SCHOOL FOR SURGERY AND ANATOMY.—In view of the fact that large numbers of students of medicine yearly pass through Milwaukee on their way to enter the metropolitan medical schools, and that the majority of them begin their collegiate courses without adequate knowledge of the primary branches of medicine and surgery, and that in the colleges the fundamental principles of the science of medicine are, almost without exception, too little taught, a number of the representative medical men of Milwaukee called a meeting at the residence of Dr. Senn, to discuss the situation. They decided to found in Milwaukee a school of anatomy and surgery, in which the primary branches only of these sciences should be taught.

An association has been organized and duly incorporated under the laws of the State, with the following officers: *President*, Dr. N. Senn; *Secretary*, Dr. Horace M. Brown; *Treasurer*, Dr. Wm. Mackie; *Directors*, Drs. N. Senn, H. M. Brown, Wm. Fox, James Dorland, A. B. Farnham.

Rooms have been secured for the school, and a course of lectures and demonstrations will be commenced about March 1, 1885, to continue for three months from that date.

No diplomas to be considered as licenses to practise medicine will be issued, and it is the object of the school only to furnish to students of medicine the best possible

facilities for acquiring a thorough knowledge of the primary branches of medicine and surgery.

The following gentlemen have been chosen by the Board of Directors to fill the various chairs:

Lecturer on Surgery, Dr. N. Senn.
Lecturer on Military Surgery, Dr. Solon Marks.
Lecturer on Surgical Anatomy, Dr. Wm. Mackie.
Lecturer on Descriptive Anatomy, Dr. Horace M. Brown.
Lecturer on Principles of Medicine, Dr. James Dorland.
Lecturer on Obstetrics, Dr. Robert Herdegen.
Lecturer on Gynecology, Dr. Wm. Fox.
Lecturer on Chemistry, Dr. A. B. Farnham.
Lecturer on Physiology, Dr. J. Bading.
Lecturer on Materia Medica, Dr. H. V. Ogden.

The Paris Obstetrical and Gynecological Society has just been organized (in Paris), with thirty titular and seventy associates and correspondents. M. Alphonse Guérin is President and M. Charpentier Secretary of the Society.

Prof. Jaeger's Successor.—Prof. Fuchs, of Liège, has been elected to the Chair of Ophthalmology in the University of Vienna. The election has not yet been confirmed, however, by the Minister of Public Instruction.

Porro's Operation was performed in Imola by Dr. Vincenzo Lesi, in the public hospital, on the evening of October 23d, upon a rachitic woman far advanced in pregnancy. Ten days following the operation, the woman was in good condition and with a temperature almost normal, and gave promise of speedy recovery.—*Gazetta Medica di Torino*, Dec. 1884.

Dr. Schweninger and the Berlin Medical Faculty.—There seems now a slight change of feeling by the public in favor of the faculty. In the higher circles of society, with which the Chancellor's office and Prince Bismarck himself are intimately related, the story has been lately circulated that the Chancellor has had only for a short time any knowledge as to the earlier record of Prof. Schweninger, and that it was a personal insult to the Prime Minister to insinuate that in the light of th s information he had elevated Herr Schweninger.

It is further asserted that the Chancellor has obtained the records of the courts concerning Herr Schweninger, and their perusal has exceedingly shocked him.

Incidental to the false report of Schweninger's appointment to the Ober-Stabsarzt, Bismarck is reported to have said in private circles that in view of the adverse circumstances, he could not understand how any one could imagine that he had appointed him to that body. To these expressions some significance may well be ascribed, though to infer certain victory for the faculty would be premature.

It is also reported that under the advice of his physician—Schweninger—Prince Bismarck will accompany his wife, who is ill, to the South, and that Prof. Schweninger will also go with them. This will be a convenient method of avoiding a distasteful discussion of the "Schweninger affair," which is imminent in the Reichstag. In the meanwhile, it is perplexing the profession in Germany to surmise who will be appointed to the now fatherless chair of dermatology.

The Suspension of the Publication of the Index Medicus.—We regret extremely to receive the following notice addressed to the subscribers to the *Index Medicus* accompanying the annual *Index* which completes the sixth volume of that publication:

"Notice.—With this issue, containing the title-page and annual index of Volume VI., the *Index Medicus* will cease to be published. During its six years' career, it has been supported by its special friends with a generosity perhaps unparalleled in the history of medical journalism. The publisher, the late Mr. Leypoldt, notwithstanding a heavy loss at the outset, and a but slowly diminishing annual deficit, maintained the undertaking with characteristic spirit and zeal. His successors, who are managing his estate and business enterprises, have made strenuous efforts to place the *Index Medicus* on a self-supporting basis, remembering with what particular favor Mr. Leypoldt regarded it. Their latest effort has been unsuccessful, and the few additional subscriptions which were required have not been obtained. The time has come, therefore, when neither zealous friends nor generous publishers can be allowed to make further efforts or sacrifices, and the publication is discontinued. Whether it will in some other shape, or under some other auspices, again appear, is for the future to decide.

"John S. Billings,
"Robert Fletcher,
"Editors."

Prof. Hyrtl celebrated, a few days since, his 74th birthday in full mental and bodily vigor. He was, on this occasion, the recipient of many congratulations from his friends, both at home and abroad.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from January 13 to January 19, 1885.

Promotions.

Campbell, John, *Lieutenant Colonel and Surgeon.*—To be Surgeon with rank of Colonel, December 7, 1884

Alexander, R. H., *Major and Surgeon.*—To be Surgeon with rank of Lieutenant Colonel, December 7, 1884.

McElderry, Henry, *Captain and Assistant Surgeon.*—To be Surgeon with rank of Major, December 7, 1884.

Appointment.

Kean, Jefferson R.—To be Assistant Surgeon with rank of First Lieutenant, December 8, 1884.

Bentley, Edwin, *Major and Surgeon.*—Leave of absence extended two months.—*S. O. 8, A. G. O.*, January 10, 1885.

Tremaine, W. S., *Major and Surgeon.*—Relieved from duty at Fort Porter, New York.

Girard, A. C., *Captain and Assistant Surgeon.*—Ordered for duty at Fort Porter, New York.

Appel, D. M., *Captain and Assistant Surgeon.*—Ordered for duty at Plattsburg Barracks, New York.

Girard, J. B., *Captain and Assistant Surgeon.*—Ordered for duty as Post Surgeon at Fort Schuyler, New York Harbor.

Havard, Valery, *Captain and Assistant Surgeon.*—On being relieved at Fort Schuyler, authorized to avail himself of leave of absence (four months).—*S. O. 8, Department of the East*, January 12, 1885.

Elbrey, F. W., *Captain and Assistant Surgeon.*—Sick-leave still further extended six months on surgeon's certificate of disability.—*S. O. 9, A. G. O.*, January 12, 1885.

THE MEDICAL NEWS.

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ORIGINAL LECTURES.

SOME FORMS OF ORGANIC DISEASE OF THE HEART.

A Clinical Lecture, delivered at Bayview Hospital.

BY I. E. ATKINSON, M.D.,

PROFESSOR OF PATHOLOGY AND CLINICAL MEDICINE IN THE UNIVERSITY OF MARYLAND.

GENTLEMEN: This patient is a German peddler. He is seventy-three years old and a widower. He says he has always been pretty well until of late, when he began to have shortness of breath. He was able, however, to attend to his business until last Christmas. Pain in the chest and swelling of the legs then developed. Since that time he has been able to do no work. He entered the hospital June 10, 1884. He is rather small in stature and is emaciated. His face is deeply wrinkled, and the natural sallowness of his skin is combined with a duskiness that intensifies his expression of discomfort. *Arcus senilis* is well marked. His supraclavicular and suprasternal fossæ are depressed, but the lower intercostal spaces are widened. The thoracic parietes are seen to be almost motionless, his respiration being largely abdominal. His lower extremities are extremely anasarcous. His temperature is normal. His respirations are 24 to the minute with prolonged expiration. His pulse ranges between 90 and 100, and is weak, very irregular, and unequal. The artery is cord-like from calcification. The area of cardiac dulness begins at the fifth rib superiorly. Transversely, it extends from the left border of the sternum to an inch and a half beyond the nipple line. The cardiac impulse is felt in the fifth intercostal space, but is unusually widely diffused, and can be felt in the sixth interspace. Anteriorly, the pulmonary resonance is almost tympanitic, but is diminished posteriorly, on both sides inferiorly, and over the right scapular region there is decided dulness. A cardiac murmur cannot be detected; the valves close with a sharp, ringing sound. Auscultation of the heart, however, is rendered difficult by the dry and moist râles heard everywhere, in front and behind, except at the point of greatest dulness, where there is rude, almost tubular breathing, with increased vocal fremitus and resonance. For several months cough, with free mucopurulent expectoration, has been very annoying. Dyspnœa is very urgent. His tongue is slimy and moderately coated; his appetite bad; his bowels regular. His urine is acid, abundant, and slightly albuminous. He has never spat blood.

This case presents a most interesting train of symptoms. To account for the gradually increasing dyspnœa, we discover satisfactory evidences of cardiac dilatation, and yet the superior margin of dulness is on the line of the fifth rib, above which the note is even tympanitic. The breath-sounds indicate a general bronchitis, which, we find, has recently become aggravated. The slowness with which the lungs are emptied of air confirms the diagnosis of emphysema suggested by the tympanitic resonance anteriorly. Emphysema is a common cause of cardiac dilatation and hypertrophy beginning in the right ventricle; but here it is not sufficiently pronounced to enable us to speak with certainty. We miss the peculiar enlargement of the thorax so characteristic of hypertrophic emphysema. There can be no doubt, however, that this condition is present to a considerable extent. To whatever extent disordered, his heart seems to have served him pretty well until the infirmities of age began to overtake him, when, weakening and partaking of the fatty degenerations of which his arcus senilis is an index, it began to yield before the peripheral resistance and to dilate. The increased cardiac bulk is shown in the diffusion of the apex heat, though the emphysematous lung marks the upper border of its area. That this enlargement is due to dilatation, and not to true hypertrophy, we conclude from the diminished force of the beat and the irregular and uneven pulse. The sharp closure of the valves show that their office is properly performed. The heart fails to drive the blood through the arteries with sufficient force, and allows mechanical or venous hyperæmia to arise. The right heart, distended with the blood it cannot efficiently drive onwards, is unable to receive the full current from the systemic veins. Stasis thus produced is the cause of the throbbing jugulars (a sign often due, it is true, to tricuspid insufficiency), the cyanosis, the general dropsy, hepatic and renal engorgement, and consequent albuminuria. The left heart, also yielding before the increased resistance, becomes distended, and not only sends the current onward in diminished violence, but causes an engorgement additional to that already present in the emphysematous lung. In the present instance, the pulmonary engorgement seems to have produced an area of consolidation, the signs of which we detect over the posterior portion of the right lung.

Here, then, the cardiac disorder appears to be the important one. You have observed the constant and painful effort our patient is compelled to make in order to continue the struggle for life. Mark the contrast with our next case.

This young colored man is nineteen years old, of slender physique. He is a jockey. He was admitted September 16th, with syphilis. There are no signs of pulmonary, hepatic, or renal disease. He has never had rheumatism. His heart trouble was discovered in the course of the examination, and seems to have occasioned no discomfort whatever. Careful examination is required to detect the cardiac murmur, which can only be heard in the nipple line over the sixth intercostal space. It is a faint, systolic bruit. There is little or no cardiac hypertrophy. I am unable to say exactly why the murmur is only heard at the point indicated. It is not anæmic, because it is apical. Unless it is due to some irregularity of closure of the mitral valve,

through imperfect action of a papillary muscle, it is caused by disease of the mitral valve with regurgitation. It is of such small intensity that the boy is still able to run up-stairs and to attend to ordinary duties without inconvenience. Whatever the degree of insufficiency, we may be sure it is compensated for by slight, though imperceptible, cardiac hypertrophy; the bearer is unconscious of a defect. I show the case to illustrate the small inconvenience a slight valvular disorder may occasion, and how, so long as it is not progressive, the heart is able to compensate for the damage.

The next case is that of a Maltese sailor, of peculiarly effeminate appearance; professedly twenty-five years of age, but looking much older. He was admitted April 28th. He informs us that his general heath was pretty good until about one year ago, when he caught cold at sea, since when he has never been well. As you see him, he has that pallor and puffiness of face that are so often seen in certain cases of renal disease. He has extensive general anasarca and ascites. He is profoundly anæmic and debilitated, and suffers from frequent headache, indigestion, and pain in the lumbar region. He has pronounced albuminuria, and tube-casts are abundantly present in his urinary sediment. In a word, his history for the past eighteen months is that of Bright's disease, beginning probably as a diffuse tubular nephritis. My special object in showing him today, however, is to speak of a cardiac valvular trouble that is probably consecutive to his renal disorder. Over the second right intercostal space, close to the sternum, one hears distinctly a diastolic murmur. This is audible over only a limited area, not larger than a silver dollar in surface. The heart-action is slightly excessive, and the apex beat, though in the fifth intercostal space, is almost in the nipple line. We thus recognize regurgitation of blood through the aortic valve with slight cardiac hypertrophy, but we look in vain for the train of symptoms that are usually associated with advanced cardiac disease, associated with aortic regurgitation, symptoms that are unusually well marked in our next patient.

John S., an unmarried German baker, twenty-three years old, was healthy until his sixteenth year, when he had rheumatic fever. He has never felt well since, though he has never again had rheumatism. He was able to work at his trade, however, until this summer, when he gave up, and was confined to his bed for nine weeks on account of his heart trouble. He is of muscular frame. Observe him attentively, and you will notice a violent pulsation over his heart and subclavicular region. Indeed, you may detect pulsation in his upper extremities and head, wherever his larger arteries become superficial. His heart apex beats in the fifth intercostal space, but one inch beyond the nipple line. The area of cardiac dulness merges into a flatness due to a moderate pleural effusion which, in the axillary line, is level with the seventh rib, and, posteriorly, with the angle of the scapula. A distinct bulging is seen over the cardiac region. The circumference of his chest is 17½ inches for the right, and 18½ inches for the left side at the nipple level. Splenic and hepatic dulness are very slightly increased. The temperature is normal. The pulse-rate is 86. Here, however, we notice striking peculiarities. The cardiac impulse is felt to distend the vessel with suprising violence, but, at the very moment of the shock, the artery falls away from the finger, as if exhausted at the first onset. The pulmonary auscultatory sounds are normal, with the exception of those indicative of left pleural effusion; but the cardiac sounds are greatly altered. At the apex a loud, blowing systolic murmur is heard, and at the base there is a pronounced double murmur, running at the systole into the common carotid arteries. There is no dropsy, no albuminuria. The appetite is good, the tongue clean, the bowels regular. Contrary to what might have been expected, sleep is good, and without troublesome dreams.

We have here a cardiac disease of rheumatic origin, having begun probably in the aortic valve, as a regurgitation. With the progress of valvular disease, stenosis eventually developed, and the very great hypertrophy of the left ventricle that always reaches its highest grade in aortic disease. The intensity and diffusion of the basic systolic murmur prevent our deciding whether it is it that we hear at the apex or a true mitral regurgitant murmur.

The effect of the cardiac hypertrophy is seen in the greatly increased pulse-wave, while the pronounced regurgitation causes the sudden collapse of the artery. The result is the "water-hammer," or "Corrigan's," pulse, that is itself diagnostic of the cardiac disorder we are now considering. Why did we not observe a similar combination of symptoms in our preceding case, in which aortic regurgitation is well established? Simply because the lesion has not been long enough present. The area of the murmur is very circumscribed, showing a less intensity than in our present case. The aortic regurgitation has been established too recently, and is of too limited extent, to produce the highly characteristic symptoms we observe here. Should he live long enough, they will become developed.

These cases represent, each, a different form of cardiac disorder. Their exciting causes are probably different. This elderly man, our first patient, whose venous system is engorged with the blood his feeble heart allows to accumulate, suffers from such dyspnœa that his every breath is an effort. We know that his distress might be alleviated, could we but restore to his heart its normal force and activity. Our remedies, therefore, shall be such as tend to add to this organ new power, evanescent though it must be. We can stimulate the cardiac innervation, and in gaining temporary power, may hope to overcome for a time the engorgement, with its consequent œdema. Our efforts in this direction will be assisted by the judicious employment of drastic cathartics and diuretics. To stimulate his heart, and to enable it to hobble along to better purpose, we order alcohol, in small doses, and the carbonate of ammonia. To secure copious watery stools, we employ the compound jalap powder in drachm doses, as occasion requires. As a diuretic, we can give nothing so good as digitalis, of which he will take the infusion in half fluidounce doses thrice daily. Exactly how digitalis acts in these cases, is not known; but it is certain that in passive engorgement with dropsy from the weakened hearts of elderly persons, its judicious employment will often restore to comfort those who seemed to have been already pressed by the hand of death; whether it is by increasing heart-action, which,

in view of recent experiments, seems doubtful, or by restoring regularity of heart-action by increasing arterial resistance, or as a simple diuretic, we cannot say. The necessities of his condition will teach him the mode of life most calculated to be of benefit, and he will be made to follow appropriate rules of diet and general behavior.

Our second case needs no special treatment. He is conscious of no discomfort; and for the present, the slight valvular defect finds compensation in slight hypertrophy, and an equilibrium may be maintained for many years. By injudicious interference, much damage might be done. The patient whose cardiac disorder is consequent upon Bright's disease, requires treatment addressed almost exclusively to his renal and general condition. By relieving the disease of his kidneys, we lessen the intensity of the exciting cause of his heart trouble, and alleviate the peculiar vascular alterations that so constantly provoke cardiac hypertrophy. The aortic regurgitation will call forth such increase in muscular power as will, for the present, provide for the shortcomings of the valves.

Our fourth case appeals strongly to our sympathies. The valvular disease, probably of years' standing, has been surely and steadily progressive, and has all the time been provided for by increasing cardiac hypertrophy. These are signs that before long the valvular disorders will outstrip the compensating hypertrophy, or that the excessive demands made upon the heart muscle will result in its atrophy and dilatation to such an extent that finally the impairment to the circulation will lead to a fatal issue, which is more apt to occur suddenly in this than in other valvular defects. What can we do to assist the conservative efforts of nature? Indeed, very little. There is no need of cardiac stimulants, his heart already beats with most unusual violence. Should his heart begin to fail, it will then be the time to employ them. We can give no drugs that can arrest the gradual advances of the processes that are working out his destruction. We can guard him against a recrudescence of his rheumatic disorder, or of complicating maladies, by proper hygienic surroundings. You will have observed that these patients do not suffer from apprehension and general anxiety of mind, such as are so often experienced in persons with purely functional cardiac disorder. This is not uncommon. Indeed, you will often detect advanced organic disease in those who have little or no suspicion that their hearts are not in perfect order.

ORIGINAL ARTICLES.

SURGICAL OBSERVATIONS IN THE TREATMENT OF THE DISEASES AND ACCIDENTS OF THE LIVER.[1]

BY CHARLES K. BRIDDON, M.D.,
OF NEW YORK.

UNTIL within a recent period, the liver and its annexa have appealed in vain for the help accorded to its neighbors in the abdominal cavity. Such aid has been restricted to the treatment of abscess and hydatids. The frequent occurrence of suppurative hepatitis in the tropics, afforded opportunities for clinical study that led to the early recognition of indications for the prompt and early evacuation of cavities resulting from that disease. Thirty years ago, Budd, in his monograph on diseases of the liver, expressed himself as follows: "From what I have seen and read of hepatic abscess, it seems to me that the proportion of recoveries has been just as great, or even greater, when the abscess has opened into the lung or the bowels as when it has made its way through the side, and I can only explain the circumstance by the fact that, when an abscess has pointed at the side, it has seldom been allowed to open of itself. When the abscess is large, and has existed long, its walls are thick and unyielding, and it has in consequence still less disposition to close up. When an abscess of this kind opens of itself, either outwardly or into the intestine or lung, matter continues to be discharged, and the patient generally dies, worn out by the protracted suppuration. When the abscess is opened by the knife, the same thing, of course, happens, and the patient dies the earlier for our meddling. In India now, it seems to be the common practice to thrust a long exploring needle into the liver where the presence of an abscess is suspected; and now and then, perhaps, the disease may be cured in this way. A single abscess may be opened when it is of moderate size, and before its walls are too thick and firm to close together, and the cavity may be thus obliterated. But there are many objections to the practice that to me seem quite decisive against it. First, there is the danger of hemorrhage, and of setting up fresh inflammation by the mechanical injury thus done to the liver. This danger may, perhaps, be small for a single puncture; but if the abscess be deep-seated, it may not be hit at the first thrust. Again, from the difficulty of distinguishing the different diseases of the liver, if the operation be commonly adopted, it must often be performed where there is no abscess at all. It will readily be imagined that much mischief may be done in this way. Often, too, there is more than one abscess. This was the case in thirteen of the twenty-nine cases recorded by Annesly, and in still larger proportion in the cases collected by Andral, and Louis, and myself. We can hardly hope to reach all the abscesses; and unless we do, we cannot cure the patient. Then there is the danger, that has been before alluded to, of letting the matter escape into the peritoneum, and setting up peritonitis that may be speedily fatal. An occasional instance of success will, I fear, be a poor set-off against the cases in which the operation has done mischief, or failed of doing good."

Such was the doctrine enunciated by a writer that was recognized as an authority in 1852. We shall see how the improvements in modern treatment have swept away most of these objections, although, at the same time, we are bound to give due consideration to opinions based upon the study of a large number of cases. That the sudden evacuation of such abscesses is apt to be followed by considerable hemorrhage from the granulations that line its interior, we are well aware, but that it is apt to be of a serious character is extremely doubtful. At all events,

[1] Read before the New York Surgical Society, January 13, 1885.

it is probable that the benefit derived from such evacuation will outweigh the loss of blood. The character of the tissues in which such cavities are formed is opposed to their contraction, and the surrounding structures are very likely to resent interference by extension of inflammatory processes that may perpetuate the conditions already existing, or lead to the formation of suppurative foci in the neighborhood, or even to necrotic processes of a serious character. Most of these conditions which are referred to as complicating incision or puncture, will occur when a spontaneous opening forms. It is true that such an opening is usually minute, and permits a very gradual discharge of the contents, but without antiseptic appliances it would be impossible to keep such a cavity aseptic, and such a condition would cause bad local reactions, to say nothing of the danger of general infection. Then, again, to open through the abdominal or lower thoracic walls, occupies a considerable period of time, during which the abscess itself is enlarging, and the patient himself becoming more exhausted. I think that where we find a large number of small collections of pus scattered through the liver, with one large central abscess, that the histories of such cases, and the post-mortem investigations, go far to prove that the small collections are secondary to the large one, which would be an indication for early operation, and I certainly cannot see that the existence of other collections should contraindicate an operation on an abscess that is fluctuant and approaching the surface. Of course, I am not referring to the multiple abscesses that are found in pyæmia. A man entered the service of the Presbyterian Hospital on the 20th of August, 1883, with a large hard tumor situated in the epigastric and right hypochondriac region. It was prominent in front, and over the centre was a spot two and a half inches in diameter, that was exceedingly tender, and the seat of obscure fluctuation. His general condition was bad. On the 22d, the aspirator was used, and three ounces of pus were withdrawn. On the 25th, the operation was repeated, and the same amount of pus was obtained. On the 27th, he was very restless, sweat profusely, and complained of severe epigastric pain. Sept. 2d, he vomited a good deal of glairy mucus. On the 5th, he had diarrhœa, and the excreta were mixed with blood and pus. The diarrhœa continued, and he died on the 12th of gradual exhaustion. At the autopsy the principal lesions were found in the liver, although there were also found evidences of chronic diffuse nephritis. The liver was found to be the seat of multiple abscesses. The lower border of the right lobe was found adherent to the abdominal parietes. At this point was a large abscess which communicated with the commencement of the duodenum by a ragged opening, which was cut off from the abdominal sac by adhesions of the parietal and visceral peritoneum. It is probable that these smaller abscesses were secondary to the large one, and it is probable that an early operation might have prolonged the man's life.

The dread of opening the abdominal cavity in an attempt to reach an abscess of the liver, for a long time deterred medical men from operating; much time was lost in studying the physical signs that indicated the formation of adhesions. Then Graves made an advance in the right direction, practising an incision over the most prominent part of the tumor down to the peritoneum, filling it with lint, and thus diminishing resistance and inviting a spontaneous discharge. At a later period Recamier advised opening the abscess from without inwards, by the successive applications of potassa fusa, a very slow and painful process. In 1842 Murray called attention to the advantages derived from the method by puncture, insisting that the introduction of an ordinary sized trocar and canula, leaving the latter in position until adhesions formed between the liver and abdominal wall, and that this does occur in the large majority of cases there can be no doubt. In fact, Jameson (*Lancet*, April 29, 1871) demonstrated such to be the fact in a case in which the patient died on the fourth day after the operation, and in which the parts were found adherent around the artificial opening for a breadth of one and a half centimetres.

With improved methods of treating such conditions, we are warranted in anticipating more favorable issues in the future. In 1883, Lawson Tait reported four cases of hepatotomy, in which the existence or non-existence of adhesions were not considered. Three of these were cases of hydatid disease, and one was for large abscess. In all of them incisions were made through the abdominal wall, exposing the cyst, which was then opened and attached to the margins of the external opening by suture. All of these cases recovered completely. The great advance made by the author of these operations was in attacking the disease by a systematic procedure, without regard to adhesions.

Conditions of the annexa of the liver calling for surgical interference are very various, but most commonly due to stenosis and occlusion of the biliary excretory ducts. Simple dilatation of the gall-bladder is associated with obliteration of the folds that are characteristic of its lining membrane, and thinning of its walls. It may attain an enormous size, but generally maintains its natural form. It is not generally adherent to surrounding parts, and contains only more or less bile-stained mucus.

Empyema of the gall-bladder is not attended with change in form, but only in size. It may be free, or united to surrounding parts by firm fibrous adhesions; the walls have become friable, and are easily lacerated. Recoveries from simple dilatation are common enough. The obstruction may cease to exist, especially if due to calculus in the common or cystic duct; and on the removal of this, the inflammatory processes in the gall-bladder speedily disappear. In other cases, the disease progresses steadily, exposing the patient to the dangers of ulcerative perforation or rupture. Especially is this apt to happen in empyema due to gall-stones. In some cases it has been noticed that very marked changes occur in the size of the distended gall-bladder, due to calculi acting as gall valves. A well-marked and interesting case of this kind entered the Presbyterian Hospital, June 28, 1880. The patient was a widow, 45 years old, who first began to suffer from pain in her right hypochondrium, four years

before admission. Eighteen months before, she began to have unusually severe paroxysms of pain, that were preceded by chills and fever, and these attacks were repeated with intervals of eight or nine days. On admission, she was found to be deeply jaundiced, had white stools, and high-colored urine; complained of pain, pruritus, and occasional vomiting. There was marked tenderness over the epigastrium; the liver was enlarged, measuring six inches in vertical line; its free border could be felt free from any irregularities. Day after admission, she had one of her attacks, beginning with chill, followed by exaltation of temperature. She suffered from intense pain, and the gall-bladder could be felt distinctly below the free border of the ribs. After this the paroxysms occurred about once a week. It was observed that the gall-bladder became more and more dilated before and during the attacks, with increase of the jaundice to bronze color; and that on subsidence of the pain, the size of the gall-bladder diminished and the jaundice became lighter in color. It was thought that the obstruction was due to calculus in the common duct; that when this became dilated it permitted the calculus to recede, and the contents to escape; that when the dilated duct emptied itself it grasped the stone and closed the duct. After lingering until September 30th, she died from profuse diarrhœa and exhaustion.

The autopsy was made thirteen hours after death. The portal system was found distended with blood. There was no fluid in the cavity of the peritoneum. The stomach and duodenum were opened *in situ*. On the inner surface of the latter was a prominent conical projection, on the apex of which was the opening of the common duct. Pressure on the gall-bladder caused an escape of bile from this orifice. A probe passed through it entered a large ampulla, which, on further examination, was found to be the dilated duct continuous with a cavity in the substance of the liver itself, and probably caused by ulceration of the walls of the duct by the pressure of a calculus which had recently escaped into the intestine. The two ducts which unite to form the main hepatic duct were each distended by a calculus as large as a good-sized marble. There were several small abscesses in either lobe, and the left lobe was larger than the right. In this case, all those conditions which it would have been possible to recognize during life would have warranted an operation, and yet the pathological lesions found after death would seem to prove that such a procedure would have done no good. The abscesses were no doubt secondary to the ulceration in the walls of the common duct.

The operation of cholecystotomy was first proposed by Jean Louis Petit (*Memoires de l'Acad. de Chirurgie*, tome i. page 155); afterwards, and independently, by Dr. Handfield Jones. It was first performed by Dr. Bobbs, June 15, 1867, then by Dr. Marion Sims, Ransohoff, and a number of European surgeons, and it may now be fairly said to be one of the recognized operations in surgery. But from the nature of conditions that not infrequently complicate it, it must often fail. It will frequently happen that the calculi are inaccessible, hidden in recesses and diverticuli that cannot be reached, and that such circumstances will render it impossible to complete an operation justified by all the symptoms that could be made out during life. The steps of the operation will be similar to those used in gastrotomy. The careful introduction of each interrupted suture through skin, parietal and visceral peritoneum, and incision immediately following fixation, has been followed by the best results. Circumstances might present themselves that would render it advisable to open the gall-bladder before attaching it to the abdominal wall. In attaching the walls of a cavity distended to its utmost, a faulty needle, with cutting edges, might easily penetrate through all the tunics that enter into the composition of its walls, and permit a leakage sufficient to excite peritonitis of a fatal character. If such conditions should appear to warrant incision previous to suture, it would be proper to use Keen's scoop, or to empty and disinfect the cavity through the medium of an aspirator.

Ruptures of the liver, generally fatal, are more immediately concerned in the subject of this paper. Most frequently the result of severe accidents, they are attended with marked symptoms of collapse, sometimes with local conditions that may indicate the existence of abdominal hemorrhage. More frequently the patient dies speedily, and in the majority of the cases that I have seen, the lesions have only been suspected during life, but I think that in the future the diagnosis will be made during life by explorative operations.

Five years ago I saw a youth who had been thrown from a wagon a month before my visit. He came in violent collision with a lamp post, but soon recovered from shock. His physician informed me that for several days there were no symptoms of serious mischief, but that after the first week there slowly developed tenderness and swelling in the right hypochondriac region. I found him with a much distended abdomen, dull on the right side, and resonant on the left. The dulness on the right was continuous with the usual area of liver dulness, and reached downwards nearly to the iliac fossa. The swelling was fluctuant, and had been emptied more or less completely on several occasions by the physician in attendance, and on the day of my visit a large amount of apparently pure bile was removed by the aspirator. There were no symptoms of obstruction present, and it was the opinion of the physician that rupture had occurred, and that the bond of union had yielded slowly to the pressure of the ducts, forming an adventitious cyst. Subsequently a large opening formed, which drained off large quantities of bile, and he succumbed at last to the drain upon his system. Unfortunately the case is not complete. I saw him only once, and efforts to obtain an autopsy were of no avail.

The following case of injury occurred in my service, and is of considerable interest in several respects (reported by Charles G. Wagner, House Surgeon):

Charles McHugh, 29 years old, native of Ireland, was admitted to the Presbyterian Hospital in the City of New York, July 3, 1883, service of Dr. Charles K. Briddon, with the following history:

While under the influence of liquor, and attempting to work at his trade as a bricklayer, he lost his

footing and fell from the third story to the cellar bottom, landing on a pile of bricks. When he was admitted to the hospital he was in a condition of profound collapse, which lasted for some considerable time. As soon as he was able to respond to interrogations, it was ascertained that he was suffering from severe abdominal pain, concentrated principally in the right hypochondriac and lumbar regions, and in the right scapulo-humeral articulation. His condition was such at this time as to preclude any very exact physical exploration, but no crepitus could be made out in the neighborhood of the shoulder. His temperature was about normal, his pulse frequent and thready.

On the following day the signs of shock were still present. It was noticed that all the urine that he had passed was bloody, the abdominal muscles were tense, and there was a manifest swelling between the cartilages of the ribs and the right iliac fossa, which region was exquisitely tender to the touch. Temperature 103°, pulse 120.

A week elapsed before the symptoms of shock had entirely passed, and during this time there was a gradual abatement of the local signs, the pain diminished, the abdomen became less tense, and there was an obscure fluctuation in the hypochondriac and anterior lumbar region. Urine still continued bloody.

July 25.—Three weeks after the injury was received, the blood had entirely disappeared from the urine; patient complained of much difficulty in breathing and pain in the side; there was some diffused abdominal tenderness, but it was still principally concentrated in the right side. There was absolute dulness from the nipple line to a level with the anterior superior spinous process of the ilium, and below the free border of the ribs fluctuation was manifest. Believing that the collection of fluid originated in the kidney, and that it was confined by a capsule formed out of connective tissue, it was determined to explore it with a needle. The puncture was made a little below the free border of the eighth rib, and on connecting with Dieulafoy's apparatus, sixty-nine ounces of fluid were removed. It had all the characteristics of pure bile. The chemical analysis and the microscopic appearances confirmed that opinion.

Patient was very much relieved by the operation. The difficulty of breathing and pain almost entirely disappeared, and his temperature dropped to nearly the normal. This condition was maintained until the evening of the following day, when the patient had a chill, which was followed by elevation of the temperature to 103°, pulse 136, respiration 36. In this short time the sac had refilled, the physical signs were as before, and he complained much of the pain and difficulty of breathing; his face was somewhat flushed, and there was a perceptible yellowish tinge of the sclerotics.

On the 27th, his symptoms were of such an urgent character as seemed to demand either aspiration or free incision, and the latter was determined upon. His condition did not appear to warrant the use of an anæsthetic. An incision one and a half inches long was made below the free borders of the eighth and ninth ribs, not being certain whether the fluid was contained within the dilated gall-bladder or an adventitious cyst. The dissection was carried carefully through the abdominal muscles until the cavity was reached. The peritoneum was not opened. A large gush of bile escaped, and seventy-five ounces were collected. As soon as the opening was made, the index finger was introduced, and wherever it could reach so as to come in contact with the walls, the cavity appeared to be lined with a perfectly smooth surface. No blood and no coagula escaped. Of course, the finger was too short to map out the confines of the space. After it was emptied, another attempt was made to explore with the finger, but it was found that the internal aperture was blocked by a solid mass that moved upwards and downwards with the movements of respiration. On passing the finger downwards, it could be passed under this mass, which was made out to be the liver, which probably had been pushed up by the accumulation, and which had gravitated downwards on its removal. A large drainage-tube was fixed in position, and a dressing of carbolized gauze.

The operation gave prompt relief, and it was of course more permanent in character than the aspiration. A free discharge of bile occurred, necessitating frequent changes in the dressing, with occasional fluctuations as regards quantity. The discharge continued for several weeks. For the first few weeks it was apparently mere bile unmixed with other secretions. During this time the bowels were constipated, and the dejections were clay-colored, and, on one or two occasions, there was a slightly perceptible yellowish hue of the skin, but at no time amounting to jaundice, and there was not any marked emaciation.

On the 22d of August, during the absence of Dr. Briddon from the city, the patient accidentally removed the drainage-tube. A new one was introduced, and simple dressings to the opening, which only gave exit to a moderate amount of pus. On removing the dressing on the following day, the tube was missing, and could not be found. It was of ordinary soft rubber, a quarter of an inch in diameter, and eight inches long. It was supposed to have disappeared into the cavity of the wound, and it is possible that it might have been drawn into it by the suction movement of inspiration. At all events, it could not be found. After ineffectual efforts to recover it, the patient's temperature rose to 105°, where it remained for a few days, and fell again to the normal.

On the return of Dr. Briddon, August 2d, a tupelo tent was introduced for the purpose of dilating the sinus so as to permit of a more thorough exploration of the part. The patient took this out without permission, stating that he could not tolerate the pain caused by its presence. He had another rise of temperature. In fact, it appeared that any interference with the interior of the cavity was resented by a febrile movement. The treatment at this time consisted in daily irrigations, variously medicated—at one time with boracic acid, and subsequently with tincture of iodine.

About the middle of November, four months after the injury was received, patient began to have severe attacks of coughing, and there were some physical

signs of a suspicious character to the right of the right border of the middle of the sternum. These signs were thought to indicate the existence of a cavity. The attacks of coughing were always brought on during the process of irrigation; and on several occasions when iodine was used, the patient said that he could taste it in his mouth. It appeared probable that adhesions had formed between the lung and diaphragm on the one side, and that perforation of the latter had permitted the contents of the sinus to reach the lung itself. It was considered as extremely doubtful whether any drainage-tube had receded into the wound. It was, however, deemed proper to endeavor to make a more free exit for the discharge of anything that might be found about the diaphragm. There was no collection of fluid in the cavity of the pleura at any time.

November 27th, the patient was etherized, and the superficial portion of the sinus was gradually dilated, first with sounds, and then with the finger. It appeared to pass directly upwards, almost in contact with the inner surface of the ribs; at a distance of about three inches from the surface, the finger engaged in a narrow, constricted portion, and on forcibly dilating this passed into a larger cavity, apparently above the diaphragm. It was noticed at this time that there was some bloody froth in the mouth of the patient, and it was regarded as evidence that the opinion as to probable communication between the original cavity and the tubular structure of the lung was correct. A very faithful search was made for the missing drainage-tube with every conceivable form of forceps, and with wire snares passed through cut-off catheters, but without result, and it was considered as scarcely possible that it could have escaped being found. Two large drainage-tubes were introduced side by side, and the wound was dressed as before. This operation was followed by less reaction than was expected, and after a few days there was a manifest improvement in his condition. His cough entirely ceased, the discharge diminished in quantity, he gained flesh, and in about six weeks, though the discharge still continued, he asked for and obtained his discharge.

He was again seen about the middle of May, 1884. He was in very good general health, and had been working at his trade without inconvenience, still wearing the tube through which there was a little discharge.

HYDROCHLORATE OF HYDRASTINE,

A SOLUBLE SALT OF THE WHITE ALKALOID OF HYDRASTIS CANADENSIS; ITS APPLICATION AND VALUE IN OCULAR THERAPY.

BY ROBERT SATTLER, M.D.,
OF CINCINNATI, OHIO.

THE well-known application of the preparations of hydrastis canadensis as therapeutic agents for the various affections of mucous surfaces, induced me, several years ago, to test its efficacy in the management of catarrhal processes of the nose, retropharyngeal space, and pharynx, which constitute in so many cases the primary or causative lesions of middle ear disease.

Although a fair and extended trial was given the remedy, which was resorted to in various forms of solution, and by various methods of application, I abandoned it, principally on account of the staining of towels and handkerchiefs which followed its local use and also for the reason that I became convinced that similar good results could be obtained in this locality from other remedies, with less objectionable consequences to the patient. Impressed, however, with its usefulness as a local stimulant to the vascular and secretory portions of the mucous membranes and therefore applicable in both the dry and hypertrophic forms of catarrhal inflammation, I determined to await the appearance of more satisfactory preparations of the drug and to renew at some future time a series of observations.

Several weeks ago, my friend Prof. J. U. Lloyd sent me several, to me altogether new, preparations of hydrastis with the request to test their therapeutic value in those affections in which the drug would appear to me indicated or applicable, and to furnish a brief summary of results for his work on *Drugs and Medicines of North America*.

At my request, two, four, and five per cent. solutions of the sulphate of berberine and of the hydrochlorate of hydrastine, the two alkaloids of the hydrastis canadensis, also the sulphate of berberine and hydrochlorate of hydrastine in powder form were furnished, and a series of observations, carefully recorded by my assistant, Dr. C. H. Castle, were at once commenced at my clinic.

The use of the berberine solutions proved of so little advantage and was so uniformly attended by so many disadvantages when used in the form of collyria, owing to the marked staining of the adjoining cutaneous area and the immediate precipitation or chemical transformation of the mucous secretions, that it was abandoned. The use of solutions, and particularly the insufflation of the powder into the bottom of the external auditory canal, was followed by the same unpleasant results—*i.e.*, staining, no appreciable effect except coagulation or firm incrustation.

The solution of the hydrochlorate of hydrastine, a white, colorless, and readily soluble salt, which differs from and is superior, on account of its soluble property, to the ordinary commercial, yellow, insoluble, so-called muriate of hydrastine (muriate of berberine), yielded different and far more satisfactory results.

A two or three grain solution of this salt, dropped into the conjunctival sac of the healthy eye, produces immediate local evidences of irritation and stimulation, which involves, to a greater or lesser degree, the entire ocular, palpebral, and reflected divisions of the membrane. It is attended by a subjective feeling, variously described as stinging, burning, or scratching and excites more or less blepharospasm and lachrymation. The discomfort following the instillation, although pungent while it lasts, does not exceed a minute's duration, and ceases abruptly; more or less moisture of the lid margin and flakes

near the inner canthus, are the evidence of the stimulant irritation of the conjunctiva.

Stronger solutions excite a correspondingly marked local reaction, more prolonged discomfort, intensified reflex symptoms and greater flow of watery mucus. The agent seems to exert its influence exclusively upon the conjunctiva.

This local action established, it was resorted to in those affections of the conjunctiva in which a temporary, more or less pronounced hyperæmia is necessary to aid in or accomplish the absorption of infiltrated cellular or other inflammatory elements; follicular conjunctivitis, also in the second and third stages of granular conjunctivitis, and in another large class of cases eminently chronic, tedious, and annoying to both physician and patient; chronic catarrhal conjunctivitis attended by the usual local alterations and modification or suspension of function of the secretory structures of the conjunctiva. Weak solutions were instilled into the conjunctival sac three or four times a day. In several cases, a ten and a twenty grain solution were applied, in addition, to the everted lids, and washed off with water and brush.

The results in all cases of follicular conjunctivitis may be considered satisfactory. The discomfort following the instillations was less severe than after the use of mineral or vegetable astringents, or mercurial stimulants of the same strength. The desired object—prompt stimulation, active hyperæmia, irritation of the circulatory and glandular structures—was accomplished with less discomfort to the patient and a more tonic and stimulant local effect.

In the chronic granular and other catarrhal forms, the results were also satisfactory. In the purulent forms of infants, weak solutions were substituted for the customary alum. et potass. sulph. and carbolic acid solutions, and used at short intervals, but the topical application, once a day, of an argentum solution was continued.

Briefly reviewing the results, based upon the observation of a number of cases, it can be said that the white or soluble hydrochlorate of hydrastine is of value as a local tonic, stimulant, and irritant to the conjunctival membrane and that it neutralizes or transforms chemically the altered secretions in the various other catarrhal processes and catarrhal stages of more serious lesions, and on this account is a valuable and reliable substitute for the various other stimulants and astringents. In many cases also, in which a simple tonic or stimulant effect is desired, with the least discomfort to the patient, it possesses advantages and is therefore entitled to preference.

I desire to add that my experiments were made with the hydrochlorate of hydrastine and not with hydrochlorate of berberine. In commerce, the substance sold as hydrochlorate (or muriate) of hydrastine is in reality a salt of berberine, the yellow alkaloid, and prescriptions are likely to be compounded of the berberine salt, even though muriate of hydrastine is specified.

Prof. F. B. Power recently contributed an interesting paper on the chemistry of hydrastine to the American Pharmaceutical Association, and No. 4 of *Drugs and Medicines of North America* is devoted to a study of hydrastine and berberine.

CAFFEINE AS A CARDIAC STIMULANT.

BY EDWARD T. BRUEN, M.D.,

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CAFFEINE has been used for some years in various combinations and for a variety of purposes. I do not think, however, that it has been as widely employed for its action upon the heart as its good effects in the hands of those who have prescribed it would warrant.

The operation of this drug augments the volume of the pulse and increases the urinary secretion, and it possesses no cumulative effect even in repeated doses.

Experimental evidence upon the frog seems to refer the physiological action of caffeine to direct stimulative operation upon the cardiac muscle, increasing the energy of the systoles, and also regulating their rhythm. In a recent article in the *Therapeutic Gazette*, November, 1884, by Dr. Dujardin-Beaumetz, the history of this drug has been concisely reviewed. The substance of the observations of Trousseau, Rognetta, Dettle, and others claims the action of caffeine as accelerating the pulsation of the heart; while Caron, Meplaine, and Fossagrives assert that it slows the pulsations of that organ. Dujardin-Beaumetz also shows that caffeine was used by Zwinger, a Dutch physician, in 1725, in dropsy, and recently by Jaccoud and Gubler, who held that this drug is an ideal diuretic, not only in diseases of the heart, but also for the treatment of renal diseases with albuminuria.

My purpose is very briefly to relate my experience in its use after an extended trial of the drug. Granted the most satisfactory action of caffeine as a diuretic, like digitalis secondarily through its action upon the circulation, let me draw especial attention to its operation as a cardiac tonic.

Like digitalis, it is capable of producing a profoundly efficient stimulative effect even in advanced stages of cardiac degeneration. It is even more potential than digitalis in cases of extreme heart disease, in which digitalis frequently fails. It is difficult to explain this clinical fact since caffeine does not affect the vaso-motor nerves, a lack of which influence sometimes accounts for the failure of digitalis. More probably the superior action of one or the other drug in the above cases is merely a manifestation of the advantage of employing a new stimulant when the cardiac nerves have become insensitive to an influence of the same nature.

In my experience, caffeine has no influence as a cardiac regulator which is comparable to digitalis. This is unfortunate, since it is undesirable to combine digitalis with caffeine, because the preponderating effect of digitalis is also as a cardiac stimulant, not regulative; moreover, we use caffeine usually only in cases in which digitalis has failed. The most effective combination with caffeine to secure its operation as a cardiac regulator, is strychnia. This drug, by stimulating the vaso-motor and respiratory centres, and possibly also the pneumogastrics, sometimes is a most desirable adjuvant to caffeine. It is also serviceable after the use of caffeine has been discontinued,

for the latter is a remedy which is not suitable for prolonged employment as a cardiac tonic. The vascular system seems to grow accustomed to its operation, or even more frequently gastric irritation or dyspepsia necessitates its withdrawal. This objection cannot be urged against digitalis. Belladonna and convallaria come next in order as supplementary drugs.

The chief objections to the administration of caffeine arise from the gastric irritation, pain, and vomiting, which it occasionally provokes. This complication is not constant, but seems to present itself and contra-indicate caffeine in the same case in which the drug can be used with impunity at some other time. Symptoms of gastric irritation may appear even when caffeine is employed in small doses as well as in large, and compels its suspension or use by the hypodermic method. Toxic effects, such as confusion of the head with giddiness, have been mentioned by German authorities, but these complications have not embarrassed me.

I have found the most useful dose of caffeine has been four grains, administered three times daily. Sometimes, however, two grains, three times daily, have been sufficient, and in no case have I given more than fifteen grains per diem, my rule having been to use the smallest amount of the drug which would develop its characteristic action.

Abroad, very much larger doses seem to have been employed with impunity, and apparent benefit. Dujardin-Beaumetz observes that the good effects of the drug, when asystole is threatened, cannot be said to be exhausted unless ten grains, three times daily, have been employed. Carl Becker and Riegel (*Wien. med. Blatt.*, 5, 15, 1884) assert that even larger doses have been used without disagreeable consequences. I believe that unpleasant gastric symptoms might be expected if such large amounts should be prescribed. Caffeine should always be administered, not its so-called citrate. The basic properties of the drug are very weak, and, properly speaking, acetates, lactates, or citrates of caffeine do not exist. Mr. Llewellyn, of Sixteenth and Chestnut Streets, has prepared for me a number of solutions of the drug, but has found that caffeine, or its citrate, cannot be given even in the proportion of a grain to the drachm of distilled water without precipitation. But two or four grains of these substances, with an equal amount of benzoate of soda, can be readily given as in the following formula:

℞.—Caffeine,
Sodii benzoati, ... aā gr. xv.
Elix. aurantii,
Aq. dest., ... aā ℥ij.
Sig.—Teaspoonful dose.

The drug is, however, very efficient when used in pill form.

I append a few cases which illustrate the extensive possibilities of caffeine:

CASE I.—A vigorous man of 23, ruddy complexion, in the habit of using alcohol freely, was brought into the Philadelphia Hospital suffering from delirium tremens. There was very rapid, tumultuous, and ineffective action of the heart from the toxic effect of alcohol. Dropsy of the feet. No organic heart disease. Digitalis tried, and found unsatisfactory. Caffeine, 2 grs four times daily, promptly effective in augmenting the systole. Within a week its full effect seemed to have been secured. No regulative power was observed, the heart's action continued rapid, and finally became normal when the general balance of the nervous system was restored.

CASE II.—A woman of 65 years. Dilated and fatty heart, with mitral regurgitation, hydrothorax, general anasarca, ascites. Was admitted to hospital August 1st, and in the interval to November 1st was tapped three times; and various diuretics, always accompanied by digitalis, were given. November 1st she was placed on 4 grs. of caffeine in pill three times daily, and within two weeks a veritable transformation had occurred. Dropsy vanished, and the cardiac systole greatly improved. At date, condition still satisfactory. Caffeine discontinued.

CASE III.—Boy of 10 years, with mitral disease, dilated hypertrophy of all the chambers of the heart, influenced by the lesion; ascites. This patient has been under my care for five years. No drug that I have ever used has proved so satisfactory and rapid in its influence as caffeine.

CASE IV.—Emphysema and cardiac dilatation; and under my observation for several years, finally threatened with evils of cardiac failure, and uræmia imminent. Most satisfactory results from the use of caffeine.

CASE V.—Atheroma and aneurism by dilatation. Dilated hypertrophy, with fatty and feeble heart. Digitalis not well borne on account of the pathological changes in the aorta. Jaundice and other evidences of cardiac failure, and venous repletion. Very favorable results from caffeine.

ON SURGICAL TUBERCULOSIS.

BY R. J. HALL, M.D.,
OF NEW YORK.

(Concluded from page 99.)

IV. Miscellaneous Tuberculoses.

CASE I. *Tuberculosis of the Tongue.*—February, 1884. Amputated in 1881. Old alcoholic preparation. Microscopic examination shows diffuse tubercle, containing many giant cells and extensive cheesy degeneration. Five preparations: four negative; in one a giant cell contains three bacilli, and two others contain two each. This case is of interest as confirming the observation made by Vidal, and referred to above, that the bacilli can be found in old preparations. I am inclined to think, however, that many bacilli had undergone some change which interfered with the staining, for the sections examined were very large, and a really enormous number of giant cells had been carefully gone over before these very few bacilli were found; while Koch[87] in two cases of tubercular ulcer of the tongue found large numbers.

CASE II. *Pus drawn with Hypodermic Syringe from Abscess in connection with Tubercular Orchitis.*—Two preparations: fuchsine; one negative; one contained four bacilli.

Case III. *Pus from Cold Abscess of the Right Iliac Fossa.*—Occurring in a young woman, with symptoms pointing to caries of the lumbar vertebræ. Pus allowed to settle and sediment taken. Five specimens: violet and brown; two negative; one contains four, one two, and a third one bacillus.

Case IV. *Pus from Cold Abscess, connected with Tubercular Arthritis of Shoulder.*—Boy, æt. 15, disease of four months' duration. Pus drawn with hypodermic and allowed to settle. Eight specimens: violet and brown; five negative; in one, one bacillus; in each of the remaining, two found. In several of the specimens large spores, exactly resembling those described and figured by Koch,[88] were seen stained violet; the only difference from those mentioned by Koch being that no uncolored spores of the same size were seen. The pus had stood more than twenty-four hours before being spread on cover-glasses. This is the only occasion on which I have seen such spores. They are not, of course, supposed to have anything to do with the tubercular process, and are only of interest because they stain in the same way as the bacilli. What are generally believed to be the spores of the tubercle bacillus are only to be seen as minute unstained interruptions in the stained body of the bacillus. As they cannot be stained in any known way they may, of course, exist in large numbers in tissues or fluids without our being able to appreciate their presence, and this affords a plausible explanation of the fact that material in which few or no bacilli can be found, such as cheesy substances, often possesses most virulent infecting properties. I have examined the sediment of urine in a number of cases of pyelitis, supposed to be tubercular, without finding the bacilli in any of them.

The small number of cases in which I have made examinations of pus, is due to the fact that Schlegtendal[89] had already made extensive observations in this direction. It was obvious almost from the first that the examination of sections for diagnostic purposes could find but a very limited application on account of the time and labor required for preparing and examining them. With pus, however, which can usually be obtained before operation, and is dried on cover-glasses like sputum for examination, the process is a much simpler one, and could the bacilli be found with any certainty, it would be a valuable resource in doubtful cases. In forty cases of tubercular bone, joint, and glandular disease, in which the abscesses had not yet been opened, Schlegtendal[89] obtained positive results in only seventeen. In fifty-five cases of tubercular fistulæ communicating with bones, joints, glands, and the urinary apparatus, with five of tubercular ulcers of the skin, he obtained only nine positive results.

The most, therefore, that we can say, is that in a certain number of cases the discovery of the bacilli may give us certainty, while the failure to find them offers no presumption against the tubercular character of the disease. Something, I think, is gained by letting the pus settle for several hours, and examining the sediment.

Although Friedländer,[90] Rosenstein,[91] M. Babes,[92] and Kredic,[93] have found the bacilli in the sediment of the urine of patients suffering from genito-urinary tuberculoses, my own results lead me to believe that it will prove of little more value here than in fistulæ and ulcerations.

V. Tubercular Epididymitis.

Man, æt. 50. Disease first noticed three months ago, and suppuration had occurred rapidly. Castration, July 22, 1884.

Inoculation of guinea-pig subcutaneously in abdomen with tubercular material. Wound of inoculation closed perfectly. Within two weeks a sluggish ulcer had formed; inguinal glands became rapidly enlarged. Sept. 7, enlarged inguinal gland excised. It is almost entirely caseous and broken down in the centre.

Examination of cheesy matter on cover-glasses shows considerable numbers of bacilli (violet and brown). This case illustrates the ease with which inoculation can be used for diagnostic purposes. The actual operation takes but a few minutes, and the bacilli occur in such numbers in the caseous lymphatic glands that the demonstration is as rapid and simple as in sputum. Only in lupus it seems that, probably on account of the very small number of bacilli, inoculation may frequently give no result. Though even here, as Koch has obtained such uniform results, it is possible that the failures depend on errors in manipulation.

Besides those already mentioned, the most important reports on the discovery of tubercle bacilli in surgical lesions are the following:

Schuchardt and Krause,[94] already referred to, demonstrated the bacilli in ten cases of synovial and three of bone tuberculosis; in the lining membrane of fourteen tubercular abscesses, none being found in the pus which they examined from four of these; in three cases of tubercular glands, three of tubercle of the skin and lupus, one of the sheaths of the tendons, and one of the muscles. In all these the bacilli occurred very sparingly. In a tubercular nodule in the tongue, a tubercular testicle, and two cases of tubercular disease of the female genital organs, on the other hand, the bacilli were very abundant. Bacilli were found in all the tubercular lesions they examined. Demme found bacilli in two cases of ozæna scroph., as well as in the three cases of lupus mentioned before. Chiari[96] found them in pus from carious disease of the vertebræ, and from tubercular cervical lymphomata. Celli and Guarneri,[97] in scrofulous lymphatics; they also made successful inoculations from these, but failed to find any bacilli in three tubercular joints and four cases of lupus. Brouilly[98] found them in an abscess of the epididymis, a fungoid tendo-synovitis, a tubercular abscess of the thorax, and a fungoid osteitis of the rib, very sparingly in all. Wesener,[99] in two tuberculoses of the testicle and epididymis, two of the female genital organs, two of the bladder, and in pus from a tubercular ulcer of the neck. F. Marchand[100] found it difficult to find the bacilli in fungoid joint diseases, and in pus from the same. Debove[101] found them in pus from tubercular epididymitis, a presternal and a costal abscess. W. Müller[102] found the bacilli, as a rule, in thirty to

thirty-five cases of fungoid disease of bones and joints. He found none in a number of cases, even after examining twenty or more preparations, and these were especially such as were undergoing spontaneous cure. In four cases, the bacilli occurred in very large numbers. Coze and Simon[103] have seen them in the granulations of fungoid joint disease, and sometimes in pus from the same; also in the purulent discharge from the uterus of a patient with pulmonary tuberculosis. Kanzler,[104] in four cases of osteomyelitis and osteosynovitis, and fourteen times in pus from thirty-one cases of tubercular disease, including suppurating lymphoma (7,–2 positive), bone and joint disease (13,–8 positive), ulcers of skin (7,–4 positive), of nasal mucous membrane (2, negative), and suppurative otitis media (2, negative). Gondolphe[105] found them in pus from cold abscess in fungoid disease of bone and joints, tubercular epididymitis, and renal tuberculosis. M. Hanat[106] publishes a case of panaritium, either originally tubercular, or, as suggested by a reviewer, possibly infected by the bistoury used to incise it, and followed by a tubercular ulcer of the forearm; in the pus and in sections large numbers of bacilli were found.

Koch,[107] besides the cases already referred to, has examined 13 of joint and 10 of osseous tuberculoses, finding the bacilli in all, and failing to find them only in pus from 1 case, in which, however, inoculation was successful. He found them further, very sparingly, in 5 tubercular testicles; very abundantly, on the other hand, in four cases of tuberculosis of the pelvis of the kidney, 1 of the bladder and urethra, 1 of the suprarenal capsule, and 1 of the uterus and tubes. No bacilli were found in the pus from an abscess of the kidney, but inoculation gave a positive result. Eschle[108] has found abundant bacilli in the discharge from two cases of suppurative otitis media, both patients having pulmonary tuberculosis. Voltolini[109] describes a similar case, the bacilli being also very abundant. The same author[110] also found bacilli in three cases of pharyngeal tuberculosis, all accompanied by tubercular disease of the lungs or larynx, and mentions that he usually finds them in the secretion from laryngeal ulcers. In a later[111] publication he gives in detail an interesting case of a child of five years, in whom the first symptom was the appearance of bilateral cervical lymphomata, followed by hoarseness, and later, aphonia. Only the swollen epiglottis could be seen laryngoscopically, and a certain diagnosis was made only by the discovery of tubercle bacilli in the secretion. B. Fränkel[112] had some time previously announced the regular occurrence of the tubercle bacilli in the secretion from tubercular laryngeal ulcers, having found them in twenty-two cases examined during life, and five after death. During the discussion which followed the reading of Fränkel's paper, Lewin[113] stated that he had succeeded in finding the bacilli in the same way. Some doubt was thrown on the reliability of Fränkel's observations by Friedländer, because in the preparation presented to the Society no tubercle bacilli were to be seen. The preparation, however, was some weeks old and faded, and at the next meeting of the Society, Fränkel was able to make a satisfactory demonstration of a number of preparations. Guttmann[114] has recently reported two cases of tubercular ulcers of the soft palate, in both of which immense numbers of bacilli were found.

In a review of the literature given above, it will be seen that, as a rule, the bacilli are abundant in tubercular lesions of mucous membranes and internal organs, while they are found very sparingly in those of the skin, bones, and joints; a rule, however, not absolutely without exceptions. Two important practical subjects remain to be considered, namely, the means of diagnosis at the command of the surgeon, and the indications for treatment.

For the first, as a rule, the clinical diagnosis is not difficult. All that we have been accustomed to consider scrofulous must be classed as tubercular, with the exception, probably, of those superficial affections of the skin and mucous membranes, which are rather diseases of the scrofulous than scrofulides. No doubt, also, further observation will show the presence of the bacillus in some of these apparent exceptions.[115] But far more than this must be included. Its forms are so various, and its course so dissimilar in different cases, that sometimes before operation only a probable diagnosis can be made, and that largely by exclusion. We must be prepared to recognize tubercular lesions of the bones, the joints, the skin, etc., in both children and adults, who, except for this one affection, present all the appearance of the most blooming health. We must be prepared to find it running an acute course, in a bone or joint, for instance, producing, in a few days or weeks, an amount of disorganization that would ordinarily require months or years, and again existing in the same situation for the greater part of a lifetime, and scarcely causing derangement of function.

Usually the gray, gelatinous, miliary tubercle, either on the surface of a membrane or scattered through the tissues, with here and there white specks, denoting caseous degeneration, can be readily recognized with the naked eye. Not very infrequently, however, cases will occur in which neither clinically nor on microscopical examination a certain diagnosis can be made. The question then arises, Have we any simpler means than the tedious and difficult examination for the usually small number of bacilli? It is quite certain that neither the epithelioid nor the giant cell is characteristic of tubercle.[116] While it may be true, as Ziegler states, that "for the later stages of the tubercle, nodule caseation is characteristic,[117] yet this is not always present, and closely similar degenerations occur as the result of so many pathological processes that it cannot be relied on for the diagnosis.[118] Giving up, then, as has been done in regard to all other pathological processes, the idea of a specific cell form, pathologists have fallen back upon the characteristic structure of the tubercle. This consists, as defined by Ziegler,[119] in "a non-vascular nodule (knötchen), which does not grow beyond a certain size, and, having attained a certain stage of development, undergoes cheesy degeneration." We may add to this, as Ziegler does a little further on, that usually many of the cells are epithelioid, and that the nodules usually contain one or more giant cells. Even this characteristic structure, or something very similar, can be produced by the irritation of various

foreign bodies, if we may rely on the statements of Baumgarten[120] and the experiments of H. Martin, [21] who claim to have produced, by the action of various irritant foreign bodies, a structure histologically identical with true tubercle, and differing from it only in being non-infective.

Be this as it may, however, the fact remains that before the discovery of the tubercle bacillus the whole domain of tubercular lesions had been mapped out entirely by the aid of histological criteria; and that since Koch's discovery the bacillus has not been found except in tissues presenting the characteristic structure, nor, so far as investigations extend at present, has the bacillus been wanting in any form of the disease which had been classed as tubercular on anatomical grounds.

Practically, therefore, the simple microscopic examination of the tissue affords a perfectly reliable and simple means of diagnosis. Where sufficient material cannot be obtained for the purpose, we can only have resource to inoculation, or to the method described by Unna,[122] who found that by partially digesting hardened specimens and examining the precipitate that had fallen, the bacilli were observable in quantity.

As regards treatment, the discovery of the bacillus has taught us, when local recurrence takes place after operation, to seek for the cause, not in any mysterious predisposition of the tissues to tubercular inflammation, but in the failure completely to remove the infecting material. As for any specific action by internal treatment, we are apparently further from success in this direction than ever. Buchner[123] and Kempner[124] have, indeed, reported favorable results from the treatment of pulmonary tuberculosis by arsenic, and Landerer[125] and Von Langenbeck[126] in a small number of cases of fungoid disease. Stintzing,[127] on the other hand, in sixteen cases of phthisis, most carefully observed, found practically no benefit at all. Parrot and Martin[128] found the bacillus more resistant than that of splenic fever. Solutions of corrosive sublimate, salicylic acid, superoxygenated hydrogen, bromine, quinine, and creasote, in the strength of 1 to 1000, were useless. Carbolic acid solution, 3 per cent., was effective only after forty-eight hours, and 6 per cent. failed in twenty-four hours. With these data in view, I am inclined to receive Doutrelepont's[129] report of favorable results in lupus, from the application of 1 to 1000 corrosive sublimate, with great reserve. Koch[130] gives the following result of his and Gaffky's experiments in this direction:

"At different times rabbits received injections of pure cultures (of tubercle bacilli) in the anterior chamber of the eye in order to test the influence of substances which interfere with the development of the tubercle bacillus. Besides numerous other substances, arsenic, helenin, and sulphuretted hydrogen, were administered to the animals, and always in the largest possible doses, and for weeks at a time. We have not been able to observe a favorable action by any substance in a single case. All the animals died tubercular, just as rapidly as those which were not treated." Koenig,[131] moreover, after stating that he has for years past carefully tested the different agents recommended, especially iodine, mercury, and arsenic, and that none of them has shown anything like a specific action, continues: "In no single case have I been able to determine that arsenic had a permanently good or bad influence on the course of the disease, whether situated in the joints, in the skin, or in the kidneys." Invaluable as iodoform still proves as a dressing, especially after operation in tubercular cases, it certainly has not satisfied the expectations excited by Mosetig-Moorhofs[132] and Mikulicz's[133] earlier publications. Although Marchand,[134] by proving that iodoform causes the rapid disappearance of giant cells from the inflammatory products surrounding foreign bodies, has given some anatomical evidence in favor of a possible special action of iodoform on granulations containing these, yet the fact that even those surgeons who use iodoform most extensively, demand at the same time the complete extirpation of all tubercular tissue, does not speak strongly in favor of a specific action.

On the other hand, a more intimate acquaintance with the course of tubercular processes, and especially the observations of Baumgarten,[135] who, in about every third or fourth cadaver, dead from other causes than tuberculosis, finds some vestiges of tubercle, prove that it is by no means always the malignant process that observation of only the more acute cases would lead us to believe, that in fact many cases tend to spontaneous recovery. I am inclined to think myself that, in most cases, the course which the disease will take is settled from the first, either by the nature of the soil, or the amount of the infecting material, and that it is far less influenced by treatment whether general or local, other than operative, than surgeons generally suppose. When the specific character of the disease was first recognized, and the frequency noted with which subjects of fungoid or other local tubercular processes fell victims to acute miliary or pulmonary tuberculosis, it was but natural that surgeons should have advocated early operative interference for the sake of prophylaxis.[136] This ground has been completely cut away by the statistics of Koenig,[137] already mentioned, according to which in 79 per cent. of all cases of tubercular bone and joint diseases examined, older tubercular deposits were found as the probable source of infection. Baumgarten's work, cited above, makes it probable that in a still larger percentage of cases the surgical affection is secondary. The failure of these too sanguine expectations, the small but nevertheless noticeable number of cases in which acute tuberculosis directly follows operative interference,[138] and above all the frequency of local recurrence, added to the often unsatisfactory results as to function after resection of joints, have caused a decided reaction in favor of more expectant treatment. Now, as before, however, we possess but one means of limiting or cutting short the local tubercular processes that is, the complete extirpation of all the diseased tissue, as advocated by German surgeons in general, and especially by Volkmann, in 1879,[139] and recently at Copenhagen;[140] and as improvements in operative technique and wound dressings diminish day by day the dangers, and render results more certain and satisfactory, we will, I am confident, have recourse

more and more frequently to early and radical operation.

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† See, also, Orvosi Hetilap, No. 32, 1882, ref. in Centralbl. f. Chir., 1883, No. 51. V. Babes, Tuberkel-bacillen in der Scheide, in der Urethra, in Geschwüren Circa Anum, and der Lippe. The ulcer of the vagina and lip were in the same patient; bacilli abundant in all; and tubercular serous effusions. MM. Chauffard et Gombault (Bull. et Mém. de la Soc. Méd. des Hôpitaux, ref. in Lancet, August 30, 1884) inoculated 23 guinea-pigs with serous, sero-fibrinous, or purulent effusions, of tubercular character, from pleura or peritoneum of 21 patients; inoculations intraperitoneal: 4 guinea-pigs died rapidly; 9 showed no tubercles after 34 months; 10 tubercular, and bacilli in all; no bacilli found in the effusion.

MEDICAL PROGRESS.

CANCER OF THE THYROID BODY.—M. MARCHAND, in the *Gazette Hebdomadaire* of Dec. 26, 1884, reports a case of cancer of the thyroid body, which is interesting on account of its rarity, the peculiarity of its progress, and the symptoms to which it gave rise. The patient was a woman thirty-two years of age, without hereditary taint of any kind. She had always had a large neck. At the time when she first came under the notice of M. Marchand, a tumor of the size of a hen's egg was discovered on the right of the median line. Its appearance was first noticed six months previously. In contrast with the cases heretofore published, in which a rapid progress has been noticed, complicated with disturbances due to the compression of the œsophagus, the tumor was developed slowly, and the respiratory function alone was interfered with. Dyspnœa, at first temporary, finally, at the end of six months, became constant. Accurate examination was impossible, as pressure produced marked stenosis of the trachea.

Treatment with potassium iodide gave only temporary relief. Thyroidectomy was then decided upon in preference to tracheotomy. A longitudinal incision was made extending to the sternal notch. The tumor thus exposed was of a reddish-white color traversed by large vessels, perfectly circumscribed, but enveloped in a dense fibrous tissue, from which it was difficult to isolate the vessels. Ligatures were applied above and below, and the tumor was excised between them. The trachea was found intact. The edges of the wound were united by metallic sutures and the wound rapidly healed, and the woman left the hospital in three weeks.

The tumor was very large, projecting nearly four inches, and having a circumference of nearly ten inches. Microscopical examination showed it to be cancerous. After three months, there are no signs of return, either local or general. Rose, up to 1879, only could collect three cases of thyroidectomy, all followed by death. Billroth has since had three cures—two temporary, of two years' duration, and in a third there has been no return, two years after operation.

CLINICAL OBSERVATIONS UPON DIPHTHERIA.—DR. LUDWIG STUMPH, in an exhaustive clinical study of diphtheria, extending over a period of twelve years, concludes as follows:

Diphtheria of the throat, nose, vagina, conjunctiva, and of the mucous membrane of all the external air-passages, is primarily a purely local disease. This primarily local disease can, in its further progress, lead to a general infection of the body. From the local nature of the disease, it is manifest that local treatment alone, and thus the subjugation of the disease at its primary point of appearance, will perfectly fulfil the present scientific aspects of its nature. By thorough and early local disinfection, for which inhalation offers the best therapeutic means, all that is possible is accomplished.

Against universal infection there is at present no remedy. It is possible that we shall eventually find a substance which, without injury to the blood and the vitality of the tissues, will exert a germicide effect upon the organism in the blood, though at this time there is no prospect of such discovery. The task of the physician is to pay attention to the primary local disease, and to concentrate the treatment upon this, and this must be the principal aim of his labor.—*Deutsches Archiv für klin. Medicin*, Dec. 1884.

TREATMENT OF CHOLERA.—As the result of extended observations upon Asiatic cholera, made during the recent epidemic, DR. OSCAR GIACCHI gives, in the *Gazzetta Medica di Torino*, of Dec. 24, 1884, the following conclusions as to the best treatment of the disease:

1. In true Asiatic cholera, when once an algid condition or a state of asphyxia is present, medication is useless; or, at least, is no more to be relied upon than are the simple natural powers.

2. Medication in the first stages of the disease, when the infection has not yet poisoned the blood and prostrated the nervous system, is often effective.

3. Laudanum is the remedy *par excellence* in the disease, perhaps the only one which will control the intestinal watery discharges due to intestinal hypersecretion.

4. Stimulants generally, and alcohol in particular, are valuable as a means of support till reaction has set in.

5. Notwithstanding the doubtful results of treatment of the disease in the advanced stages, all symptoms should be met as they arise.

6. A symptom most important to recognize, is the algid state which precedes central paralysis. In this condition, the hot bath must be resorted to, and renewed as often as required; likewise stimulants, alcoholic and non-alcoholic, and artificial heat should be used.

7. After the advent of the algid stage, vomiting usually follows, which further prostrates the powers of the patient; and by preventing the retention of medicines in the stomach, diminishes the chances of recovery. The best remedy for this condition is chloroform, in doses of from twenty to thirty drops in some stimulating vehicle, or mixed in effervescing lemonade.

8. Cholera which has completely developed cannot be directly cured by any means, and should not be treated by theoretical specifics.

9. Prophylactic measures, during the presence of an epidemic, to prevent the spread of the disease, are better than medical treatment, however skilfully directed.

CANCER OF THE EYE.—An important study of cancer of the eye has just been completed by M. GUSTAVE DRON. The work contains an extended observation upon a case of sarcoma of the choroid, reported to the author by M. Alp. Desmarres; a study of cancer of the globe; and finally, a general discussion upon the nature of the different varieties of cancer and their etiology. The case of choroidal sarcoma was diagnosticated at its first appearance, operated upon, and at the end of five years has not returned. Showing clearly the symptomatology of cancerous growths, and the mode of distinguishing them, M. Dron insists especially upon the radical treatment of the disease, which consists in the complete extirpation of the eye and all its appendages, if the growth has at all invaded them. Considering the subject from a practical standpoint, he regards histological distinction as of only minor importance.—*Gazette Medicale de Paris*, Dec. 27, 1884.

The Combined Action of Antipyrin and Kairin.—In a memoir upon the combined action of antipyrin and kairin, Dr. G. Mingazzini publishes some extended observations. The diseases in which the effect of the drugs was noted are phthisis, catarrhal pneumonia, typhoid fever, and croupous pneumonia. In each case satisfactory effects were obtained. The doses employed varied from 8 to 30 or 40 grains of each drug. As the result of his experience, Dr. Mingazzini offers the following conclusions:

1. The ingestion of a mixed dose of antipyrin and kairin produces a much greater reduction of temperature than if an equal quantity of antipyrin alone is administered.

2. The ingestion of a mixed dose of these two drugs usually results in an immediate reduction of temperature, which continues much longer, *cæteris paribus*, than when antipyrin alone is administered.

3. Kairin, administered with antipyrin, does not produce any of the untoward effects which are observed when it is administered alone.—*Gazetta degli Ospitali*, Dec. 1884.

The Thermo-cautery in the Treatment of Spontaneous Gangrene.—Dr. Dessette publishes in the *Journal de Méd. de Paris*, Jan. 3, 1885, a case of gangrene of the left foot, incident to diabetes mellitus, which was successfully treated with the thermo-cautery. The case is of interest from two points of view:

1. It shows the influence of alcohol in producing gangrene in diabetics. Gangrene of the extremities is not frequent in diabetics—one case in fifty being unusual—and, what is remarkable, the case exists in connection with alcoholism, having required, as it seems, a double diathesis—the alcoholo-diabetic, to cause the gangrene.

2. It presents an instance of cure without recourse to the bistoury. The diseased parts must be thoroughly cauterized as the gangrene progresses; and, though the patient may thus lose one or more toes, or the foot itself, he is finally cured.

Hydrocele in the Female.—Hennig, of Leipzig, read a paper on this subject before the Society of German Naturalists and Physicians, in Magdeburg.

Hydrocele in the female, he said, is very rare; he has been able to find only thirty-nine cases recorded in literature, and has had two cases in his own practice. Apart from their interest to the gynecologist, these cases merit the attention of accoucheurs, as hydrocele may render delivery very difficult, or even impossible; furthermore, the exudation, by passing up the inguinal canal into the abdomen, during labor, may cause peritonitis; three instances of this accident are recorded. It may also cause sterility; a case is reported in which sterility of fourteen years' standing was cured by removal of the hydrocele. Zuckerkandl made post-mortem examinations of the bodies of nineteen young girls, the ages ranging from one to twelve years; in four cases he found the so-called Nuck's diverticulum, bilateral in three cases. If the hydrocele communicates with the abdominal cavity, the contents may be forced out into the cavity. In many cases small sacs are found in the course of the round ligaments; they are liable to occur after traumatism, and to become inflamed.

Hydrocele occurs from the seventh to the seventieth year, and is more frequent in women who have borne children than in nulliparæ. In 8 cases it was on the right side, in 6 on the left, in 2 it was bilateral. Of 40 cases, the hydrocele completely filled the canal in 25; of these, 3 did not communicate with the abdominal cavity, and 15 were closed cysts. In 5 cases the fluid was bloody.

The affection begins painlessly. At first the swelling is slight, and disappears on lying down. Though there is seldom any fever at first, it comes on when the hydrocele becomes inflamed, which may occur from excessive tension. Erysipelas has also been observed before an operation. Hydrocele in the female has been mistaken for hernia; the diagnosis can be easily made in some cases by the use of the aspirator needle. The hydrocele has been known to suppurate in a few cases, but the suppuration has never extended to the abdomen. Of 28 cases of hydrocele, 23 were cured, and the hydrocele returned in 5 cases. The treatment consists at first in placing a bandage over the sac, and later in making an incision and filling the sac with charpie.—*Centralbl. für Gynäk.*, Oct. 11, 1884.

Treatment of Rachitis by Phosphorus.—Dr. Schwechten, at a late meeting of the Berlin Medical Society, communicated his observation upon the treatment of rachitis by phosphorus.

According to Kassowitz, rachitis is the result of an inflammation of the bones and of the production of an osteoid substance deprived of the calcareous salts. He has produced in animals, by giving them continuously large doses of phosphorus, symptoms very analogous to those of rachitis, and has noticed that very small doses diminish the vascularity of newly formed osseous tissues and their tendency to rachitis, whence originated the treatment he so highly praises and which has given such brilliant results. M. Schwechten has not confirmed these results by his own experiments. He administered the phosphorus in an oily solution in doses of $\frac{1}{128}$ of a grain daily, as directed by M. Kassowitz. Forty-one patients were treated by this method: four were cured, twelve were decidedly benefited, nine moderately improved, eleven experienced no change, five grew worse, and eight died, giving a total of twenty-five successes and sixteen failures. Dr. Schwechten, therefore, does not consider phosphorus a specific for rachitis, and holds that the drug is only directed to one set of symptoms of the disease. Notwithstanding the contrary opinion of Kassowitz, he considers rachitis a general disease affecting other than bony tissues. Dr. Schwechten holds the view that improper hygienic conditions frequently cause the development of rachitis, and that the disease may be ameliorated and even cured by the simple substitution of good for bad hygienic surroundings.—*L'Abeille Médicale*, Jan. 5, 1885.

An Extraordinary Case of Labor; Putrefaction of the Fœtus.—Dr. R. de Saint-Moulin, in the *Journal d'Accouchements de Liège*, Nov. 30, 1884, reports a remarkable accouchement. The patient was a primipara in labor at term. The belly was enormous, swollen excessively, and tympanitic over its entire surface. Palpation gave no information, owing to the ex-

cessive distention. Auscultation also gave negative results. By touch, the head of the child was felt, filling up the neck of the uterus, like an enormous thrombus. Labor had been in progress four hours, but the woman did not know when the bag of waters had ruptured. Her condition was very grave; respiration difficult and superficial; pulse small and thready; face wrinkled; painful and continued oppression in the abdomen. The forceps were applied and the head, very far advanced in putrefaction, was delivered. Efforts to deliver the remaining parts were in vain.

Saint-Moulin then attempted to deliver the shoulders with the hook, and in so doing both arms of the fœtus were torn off, as also the head, and the same accident happened when an attempt was made to deliver the lower limbs. To deliver the trunk, it was necessary to perforate the abdomen of the fœtus to permit the escape of the gas there collected. The after-birth was delivered immediately, and the woman died shortly after.—*Archives de Tocologie*, Jan. 1885.

Treatment of Pruritus Vulvæ and Ani.—Dr. Atthill, of Dublin, treats this troublesome complaint with carbolic acid. The formula which he recommends is the following:

Acid carbol.,	20 gr.
Tr. opii,	f℥ss.
Acid hydrocyan. dil.,	f℥ij.
Glycerinæ,	f℥ss.
Aq.,	q. s. ad f℥iv.

A tampon of lint soaked in this solution is introduced into the rectum and renewed after each stool.—*L'Union Méd. de Canada*, Jan. 1885.

Infectious Pneumonia.—M. Germain See, in a paper lately presented to the French Academy of Sciences, after reviewing the experiments of Friedlander and Talmon, in which micrococci, from pneumonic exudations, produced pneumonia in the lungs of rabbits and mice, in nowise different from the disease as manifested in man, avows his belief that pneumonia is a specific parasitic disease. A *résumé* of the paper touches the following points: Pneumonia may be reproduced in animals, but reproduction is impossible with ordinary agents, either physical or chemical. In order that the characteristic inflammation may be developed, it is necessary that a special microphyte be brought into contact with the pulmonary tissue, and be there developed. The inflammation remains local if it does not exceed the limits of the pulmonary apparatus; this is simple pneumonia. The disease extends and becomes general when the microbe reaches the circulation, either through the lymphatics or by the blood.

Distinction between such cases of pneumonia and broncho-pneumonia. Parasitic pneumonia (pneumonia by infection) should be absolutely distinguishable from other forms of acute pulmonary inflammation which are described under the name of broncho-pneumonias. In these latter microbes also exist, but the part they play is but secondary. The progress of the disease, as well as its extent, is here dependent upon a preceding bronchitis, having its origin in cold, and upon the extension of such inflammation to the bronchioles and alveoli. Broncho-pneumonia caused by cold is rarely seen elsewhere than in children and the aged, and is very rare in the adult, who is much more the subject of parasitic pneumonia.

In parasitic pneumonia the mode of development is similar to that of the eruptive fevers. As in variola-measles, its duration is limited, and does not ordinarily exceed six or nine days.

Considered from this point of view, he admits but three indications for treatment:

1. To combat the fever by the aid of sulphate of quinine.

2. To sustain the forces of the patient by means of alcohol.

3. To combat inanition by means of nutritious beverages.—*Revue de Thérapeutique*, Jan. 1, 1885.

Hippurate of Lime as a Food.—Dr. Poulet, in the *Journal de Médecine de Paris*, recommends, in numerous affections, the hippurate of lime, prepared as follows:

Hippuric acid,,	3 ounces.
Milk of lime, filtered,	2 quarts.
Warm water,	2 "
Sugar,	5 pounds.
Alcoholic extract of citron,	½ ounce.

The hippuric acid and the milk of lime are mixed by degrees in a portion of the warm water, and tested from time to time until all acidity has disappeared, which requires at least four hours. The remainder of the water and the sugar are then added and boiled till a suitable consistency is obtained. The dose is a tablespoonful two or three times a day. The preparation must be shaken before administration. According to Dr. Poulet, the hippurate of lime as above obtained is specially useful in: 1. Affections of the urinary passages; 2. In diseases of the liver; 3. In certain diseases of the skin dependent on hepatic lymphatic derangement; 4. In numerous diseases of the digestive tract.

The Cola Berry.—M. Beaumetz presented recently to the Société de Thérapeutique specimens of the cola berry, and of the different pharmaceutical preparations of which it forms the basis. The cola berry is the product of the *Sterculia acuminata*, a plant originally from Africa; it is considered by the natives to be a tonic and an aphrodisiac. It contains a great proportion of caffeine, and small quantities of theobromine and tannin. It is employed in the Soudan in two forms: as a masticatory or as an infusion, after being roasted and pulverized. M. Dujardin-Beaumetz has experimented with it in chronic diarrhœa, and has obtained excellent results, analogous to those which the physicians of the navy have obtained from cochinchine. In cardiac diseases, at periods of asystole, the preparations of cola appear to act as coffee and caffeine, at once as a heart tonic and as a diuretic; and finally the general stimulant and tonic effects of the drug may be used advantageously in a great variety of adynamic conditions.

M. Dujardin-Beaumetz used the infusion of the roasted cola berry in doses of about four drachms to a cup of water; of the elixir, or tincture of the cola, in doses of a dessert or tablespoonful. There are also prepared a wine and an alcoholic extract of the cola.—*Journal de Méd. de Paris*, Jan. 3, 1885.

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SATURDAY, JANUARY 31, 1885.

IS COMPLETE LARYNGECTOMY A JUSTIFIABLE OPERATION?

DURING the past year, in addition to scattered reports of individual cases, several important statistical contributions were made to the subject of complete excision of the larynx, of which the most notable are those of ZESAS, published in the *Archiv für Klinische Chirurgie*, Bd. xxx, Heft 3, and of SOLIS COHEN, in his excellent article on "Injuries and Diseases of the Air-passages," contained in the fifth volume of the *International Encyclopædia of Surgery*. From these and other sources of information, we find that the entire larynx has been removed at least 88 times, a number which is, perhaps, sufficient for the settlement of the vexed questions of the justifiability of the operation and its proper position as a surgical procedure.

The bare results of the 88 cases show that 52 recovered, and 36, or 40.90 per cent., died. Of the 52 recoveries 20 died subsequently of recurrence of the disease for which the operation was resorted to, 12 perished from other affections or accidents, 2 were living with recurrence, and 18 were alive and well for periods which varied from a few weeks to ten years.

If the propriety and advisability of complete laryngectomy were based upon the above record, it would certainly be excluded from the category of established operations by not a few surgeons. Hence, in conducting an inquiry of this kind, impartial justice can only be secured by dividing the cases into three distinct groups, in accordance with the causes for which the procedure was instituted. For this reason we will discuss the operation as performed, first, for carcinoma, secondly, for sarcoma, and thirdly, for other affections.

1. The cases of carcinoma number 76. Of these 43 recovered, and 33, or 43.42 per cent., perished, the cause of death having been pneumonia in 19, bronchitis in 1, pulmonary emphysema in 1, collapse in 5, exhaustion in 3, hemorrhage in 1, the passage of a feeding-tube into the mediastinum in 1, and not ascertained in 2. Of the 43 recoveries, 18 died subsequently from recurrence of the disease, at periods varying from two to thirty months, or at eight months on an average; 8 perished subsequently from other causes or accidents, at periods varying from three to twenty-four months, or at eight months and a half on an average; 2 were living with recurrence respectively at the expiration of twelve and sixteen months; and 15 were alive and well at the dates of the last reports. Of the 15 still living, without recurrence, seven weeks had elapsed since the operation in 1, three months in 2, four months in 1, six months in 1, seven months in 1, sixteen months in 1, twenty months in 1, twenty-one months in 1, twenty-six months in 1, twenty-seven months in 1, three years and four months in 1, and three years and seven months in 1, the date being uncertain in 2. The average life of these cases was sixteen months and two-thirds, while that of all cases, living or dead, after the operation, was six months and a half.

From the foregoing facts, it appears that the immediate mortality of the operation is 43.4 per cent., that the disease recurs in 46.5 per cent. of the recoveries, and that of the living and well cases, the mean duration of life is less than seventeen months. The high mortality of the procedure, especially from lung complications, the large rate of recurrences when life is spared, and the failure in all cases, save two, to bridge over three years—the generally accepted criterion of success in operating for carcinoma in other organs—all go to show that, with our limited experience up to the present time, total laryngectomy for carcinoma is not justifiable, and that the views of Cohen, expressed in a paper published in the *Transactions of the College of Physicians of Philadelphia*, for 1883, namely, that the operation does not tend to the prolongation of life, and that palliative tracheotomy secures the greatest good to the greatest number of those suffering from this disease, are correct.

Although, in the light of our present knowledge, the operation is not advisable, it does not follow that better results will not be obtained in the future. Many of the cases occurred in aged and exhausted subjects, and more were totally unfitted for the operation through the extrinsic seat of the disease and through its extension to the associated lymphatic glands, the tongue, the pharynx, the œsophagus, and the thyroid body.

In his admirable brochure on Malignant Disease of the Larynx, Mr. Butlin echoes the views of those who have studied the life-history of carcinoma when he says, "I think that the experiment has not yet been conducted with sufficient care. The cases have not been selected with special reference to the origin and probable course of the disease. Until this has been done, and the precaution recommended by Landerer has been adopted, I am not prepared to abandon the operation as hopeless. I would, therefore, suggest that in the immediate future, extirpation of the larynx for carcinoma should be practised only for intrinsic carcinoma which is still limited to the larynx, and that tracheotomy should be performed at least a fortnight or three weeks before the extirpation, in order to give the patient a good opportunity of gaining strength to bear the larger operation."

Mr. Butlin has shown that intrinsic carcinoma is much more frequent than extrinsic carcinoma, which is limited to the structures above the false vocal cords, and that it is far less liable to produce lymphatic disease, and to extend beyond the larynx. Hence, intrinsic carcinoma is particularly well fitted for the operation, and that it does influence the result is clearly shown by an analysis of the cases in which the origin of the disease could be traced. Thus, we find that of the fifteen still living without recurrence, the average duration of life is nineteen months and a half for intrinsic carcinoma, as against eleven months and a half for extrinsic carcinoma, and that of those which died of recurrence, the average life was nine months and two-fifths for intrinsic disease, as against six months and one-seventh for extrinsic disease.

As the natural outcome of these considerations, we think that we are fully justified in recommending total excision for intrinsic carcinoma of the whole larynx, after a preliminary tracheotomy, in subjects not too far advanced in years. Under these circumstances, and with the exercise of great care to prevent lung complications, there is no reason why the future mortality should not be greatly reduced, and the number of permanent cures be materially increased. When, however, the disease is unilateral there would seem to be no necessity of removing the entire larynx, as extirpation of one-half of the organ has afforded far better results. Thus, of 7 unilateral laryngectomies, in which the results are known, 2, or 28.57 per cent., died, the disease recurred in six months in 1, and 4 were living and well for periods varying from nine months to three years and a half, or for twenty-one months on an average. Hence, we agree with Hahn, Schede, and Kuester, whose views are expressed in the *Beilage zum Centralblatt für Chirurgie*, No. 23, 1884, in advising the lesser operation for unilateral disease, for the reasons that it is attended with a greatly reduced mortality, and followed by fewer recurrences and a larger number of permanent successes.

2. The entire larynx has been extirpated for sarcoma 6 times, with 5 recoveries and 1 death, the latter having been due to hemorrhage on the fifth day. Of the survivors, Bottini's and Caselli's patients were living and well at the expiration, respectively, of ten and four years; that of Foulis died of phthisis at the end of seventeen months and a half, without recurrence of the disease; Lange's patient perished in seven months from asthenia, with a small recurrent nodule; while the case of Czerny was marked by recurrence in four months, and death eleven months later.

When it is remembered that the patient of Lange was seventy-four years of age, the mortality, which reached only 16.66 per cent., must be regarded as being remarkably slight. In only two cases, or in 40 per cent., was there recurrence, while two other patients were restored to usefulness. These results are brilliant when compared with total laryngectomy for carcinoma, and they are as favorable as are the results of operations for sarcoma in other organs or tissues of the body. The operations of Bottini and Foulis were for intrinsic disease. Of unilateral extirpation of the larynx for sarcoma little can be said, as the only cases thus far recorded are one by Gerster, which recovered, but died of pleurisy, without recurrence, one year subsequently; and one by Kuester, which also recovered, but in which there is no further history.

3. Total laryngectomy for other affections than infiltrating tumors has been resorted to in 6 cases. The operation was done in 1 for syphilitic stenosis, with death from pneumonia in three weeks; in 1 for necrosis and perichondritis, with death from exhaustion on the fifth day; in 1 for tubercle, which recovered, but perished from general phthisis in two months; in 1 for lupus, which recovered, but died of phthisis at the expiration of three years; and in 2 for papilloma, of which one was living two years subsequently, and one recovered, and died of phthisis in five months and a half. Hence, this group of cases indicates a mortality of 33.33 per cent.

From the data contained in the foregoing paragraphs, we believe that we are warranted in concluding that complete laryngectomy is indicated for sarcoma; that it is justifiable in carcinoma when the disease is intrinsic, or has not invaded the surrounding tissues and glands, and when the patients are not too far advanced in years; and that it may be resorted to for other conditions, such as intractable thickening and stenosis, and papilloma which shows a disposition to recur and extend after the employment of less harsh operative procedures.

THE OBSTETRIC PELVIS AND ITS AXES.

THE inclined planes of the pelvic cavity were, under the influence of Baudelocque's teaching, and that of his disciples, so firmly established in the professional mind, as explaining certain movements of the head of the fœtus in labor, that almost every one believed them essential for understanding the mechanism of labor. But even in the country of Baudelocque, these planes are almost forgotten; and few, if any, obstetric teachers now refer to them unless in memory of an effete theory. That great teacher, the late Prof. Hodge, held faithfully to these inclined planes, only deviating from the teaching of the great French master by placing the arbitrary division between anterior and posterior planes somewhat further back. But even this change has not saved the inclined planes.

At one time, in studying the axis of the pelvis, all authorities were agreed upon the curve of Carus as being that axis; this curve was as settled a line in arbitrary obstetric anatomy as Mason and Dixon's line was in the political history of our country—each was an assumed finality. The progress of events has taken away all significance from the latter line, while a supposed more accurate study of the pelvis has led to the abandonment of the Carian curve. In place of this curve we were given by obstetricians, who still held to a mere obstetric study of bones, the curve of the parabola; that was declared to be the axis of the true pelvis. One retains such pleasant memories associated with his study of the parabola, in college days, that it was delightful to find that this curve was a part of obstetric study; then, too, the movements of the fœtus through the birth canal seemed so clear when the student was taught that this canal had a parabolic form. Metabolism in physiology, parabolism in obstetrics!

But, alas! the parabola is threatened; it is probably doomed to follow the curve of Carus and the inclined planes to the tomb of the Capulets. DR. ALPHONSE BOISSARD has recently published a very interesting monograph, *De la Forme de L'Excavation Pelvienne considérée au point de vue obstétrical*, in which he states that different obstetric writers have until recent years been more preoccupied in giving an exact description of either a dry pelvis under their eyes, or of a pelvis ideally conceived in their mind, than in representing the pelvis as it actually is, comprising not only bones, but soft parts. He holds that as to the pelvis in its fresh state, the coccyx really occupies the fundus of the cavity, and the line measuring the depth of this cavity is the central line or axis, which thus obviously is a straight line. This is the line in which the fœtus descends, and then presses upon the part of the basin formed at the expense of the pelvic floor. According to him, the pelvis does not in any respect present the aspect of a curved canal, but rather of a cavity largely cylindrical, presenting two walls, anterior and posterior, almost vertical, and a fundus forming a plane nearly perpendicular to these walls. He states that Fabbri has proved this configuration of the pelvis by pouring into the entire pelvis—that is, the bony pelvis along with the membranous canal formed by the soft parts—liquid plaster, and the cast thus formed shows the shape of the entire pelvis.

As the opening by which the fœtus is to escape is upon the plane of the anterior wall, it must, after descending to the bottom of the excavation in a straight line, entirely change its direction in order to pass through the membranous canal: the axis of this canal is at a right angle with the axis of descent. We have thus as representing the axis of the birth canal not a curved line, but two straight lines, the one nearly perpendicular to the other.

The views of Dr. Boissard are more than interesting—they will prove useful, and if accepted, as we believe they will be finally, will make it easier to understand the mechanism of labor, and they will also prove of use in practical obstetrics.

THE SEMIRAMIDIAN OPERATION.

THE association of the name of the inventor of a new instrument, or the modifier of an old one, or the originator of an important operation, is quite just. How grandly a man grows in professional estimation if he has invented a speculum, or a pessary, or modified surgical or obstetric forceps! Modest, as he may be by nature, how is his vanity fed by the catalogues of instrument makers and the display in their windows and cases!

But still greater is the fame of those who first advise or do important operations. These operations are generally known by their names, and, even when their diffidence may prevent themselves laying claim to such honor, the love of hero-worship, which, according to Carlyle, is so strong in the human heart, and the sense of justice, which is so decided in the medical mind, make others eager to do honor and justice to these inventors, and they are ready to declare, in the face of the whole world, "We will call it Brown's, or Black's, Green's, or White's operation," as the case may be.

Confident in this admiration on the part of the medical mind for whatever is honest and just, we wish to rescue from oblivion in this regard the name of the one who was first to extirpate the human testicles. In thus doing, we are glad, too, it will be shown that, ages before our distinguished countryman, Dr. Battey, performed the operation which he called normal ovariotomy, but to which a just and grateful professional world have with one voice given

his name, one of the most famous queens of antiquity performed normal orchidectomy.

The removal of the testicles—the *little witnesses* not having which a man could not testify in a Roman court—has been done for various reasons. Thus, for awhile charlatans in France, travelling through the country, extirpated these organs to prevent hernia; and it was not until 1776 that this practice was stopped by law. The testicles have been removed in order to secure sopranos for the church and keepers for seraglios, and in Egypt such removal was the punishment for rape. Some celebrated characters in church or State have removed their own testicles in order to save themselves from temptation or from slander. Apart, too, from orchidectomy for disease of the organs, the operation has been done with the hope of curing epilepsy, and who knows but in the future it may have as ample a field in the cure of this and some other neuroses as is now assigned to removal of the ovaries! So much the more reason that she who originated the operation should be properly honored for not only showing what a woman could do, but also for demonstrating the safety of the doing.

Unfortunately, we have no authority earlier than one of the Latin poets to quote in favor of the operation being first done by Semiramis, for it is to this illustrious queen the honor belongs. Nevertheless, the statement made by this poet is unequivocal:

Semiramis teneros mares castravit omnium prima.

Those thus castrated were made overseers and guardians, the operation rendering them more tractable and obedient.

As Semiramis lived in the thirteenth century before the Christian era, an earlier claimant for priority in this operation is not likely to be found, and, therefore, we think it ought to receive her name, and be known to the latest ages as the Semiramidian operation.

A serious objection to the operation, unless when done on account of grave disease, is that, from a physiological standpoint, a man's testicles are not his own—they were made not for him, but for posterity. Nevertheless, moral considerations, the improvement of society, and the development of the race may possibly sometimes conflict with such physiological law.

THE SPREAD OF PROPHYLAXIS AGAINST TUBERCULOSIS.

Notwithstanding the fact that the new doctrine as to the bacillary origin of tuberculosis met with more direct opposition in Austria than in any other country on the continent of Europe, the Austrian Government now recognizes its infectious nature, and has directed its hospital authorities to isolate completely all patients suffering from phthisis, and to take into consideration the employment of such other prophylactic measures in harmony with this view as may be necessary to prevent the extension of the disease.

Abundant opportunity for testing the value of such precautionary measures likewise exists in the large municipal hospitals of this country, such as the Charity Hospital in New York, and the Philadelphia Hospital in this city, in which fully one-half of the cases treated are of phthisis, and we commend a trial of them to the physicians of these institutions.

In this connection we may say we have reached a stage in which it would seem right that hospital authorities generally should insist that their surgeons adopt antiseptic principles in their hospital practice.

REVIEWS.

A Practical Treatise on Fractures and Dislocations. By Frank Hastings Hamilton, M.D., LL.D. Seventh American Edition. 8vo. pp. xxxi., 1005. Philadelphia: Henry C. Lea's Son & Co., 1884.

To praise a work which has reached a seventh edition is superfluous. It stands by itself, and has a character which cannot be much affected by any words of a reviewer. Some books, of course, have a more or less successful career for which it is impossible to account upon any discernible literary principles; but when the work is a professional one, appealing to the practical wants of busy men, its longevity is traceable to its excellence. Dr. Hamilton's book took upon its first appearance, and has since maintained, a very high position as a classical and authoritative monograph. In its successive editions care has been exercised to keep it abreast of a rapidly progressive science, and in this latest issue there is manifested much painstaking and conscientious effort to include within its covers all recent and valuable additions made to the subject of which it treats.

When medical journals teem with figures and descriptions of apparatus devised by different surgeons to meet their individual opinions, or to suit particular cases, it is not to be expected that all will find place in any single volume, however comprehensive its scope. Nor is it desirable that a work so generally referred to as that of Prof. Hamilton's should be so encumbered. It is enough that the underlying principles of treatment should be clearly enunciated, and a limited number of the infinitely varied forms of dressing given. Certainly no one can complain that the book is wanting in either of these respects, and the tyro in our art will often be bewildered when he turns over its pages in the attempt to decide what form of apparatus he will adopt in any given case as he familiarizes himself with the many varieties detailed by Dr. Hamilton. But if he will carefully consider the anatomical principles laid down by the author of the volume, and accept his judgment concerning the merits of the various dressings, he will not greatly err. In the matter of expressing his own opinions, however, we think Dr. Hamilton too often

errs on the side of modesty. Modesty is a very good thing, as is the case with most scarce articles, but many students would be glad to have opinions of a more ex-cathedra tone from one whose experience and learning well entitle him to pronounce such utterances. We well remember the oft-repeated expression of a distinguished professor in the University of Pennsylvania, who, when trea by some learned student to various theories and plans of treatment, would reply, "But what do I teach, sir?" and the definite teachings of that *I* impressed themselves upon his pupils, supplying a sound and firm basis to which they may have added much since, but from which they are not readily moved. Dr. Ham ton's principles are sound, and his opinions are entitled to more than respectful consideration, while the very thorough way in which he has noticed the accumulated observations and experience of other surgeons, shows that he is far removed from anything like unreasonable self-sufficiency.

The references to recent works are very numerous, while no less than three hundred and seventy-five wood-cuts are interspersed through the pages of the volume. As we have said, commendations of the work are not needed. All young surgeons should secure it as an indispensable book of reference, while older ones will regret that there is no way yet devised by which they can exchange their older and time-honored copies for the new edition.

SOCIETY PROCEEDINGS.

NEW YORK SURGICAL SOCIETY.

Stated Meeting, January 13, 1885.

THOMAS M. MARKOE, M.D., IN THE CHAIR.

DR. CHARLES K. BRIDDON read a paper entitled

SURGICAL OBSERVATIONS IN THE TREATMENT OF THE DISEASES AND ACCIDENTS OF THE LIVER.

(See page 115.)

DR. A. C. POST said that he once had a patient at the New York Hospital who was under treatment for lupus, to which he applied Dupuytren's powder, consisting of one part of arsenious acid and one hundred parts of calomel. After this powder had been applied for some time, the patient was taken with high fever, vomiting, epigastric pain, and jaundice, and he thought that perhaps it was a case of poisoning by arsenic. At all events, the result was fatal; but at the autopsy, Dr. Post was relieved with regard to his suspicion concerning arsenical poisoning by finding that death had been caused by a very large gall-stone obstructing the common duct.

A number of years afterwards Dr. Post was called to visit Prof. Granville Sharp Patterson, whose condition was so much like that of the patient whose history he had just related that he diagnosticated obstruction from a gall-stone, and it proved to be so.

DR. PETERS said that he made the post-mortem examination in the first case reported by Dr. Post..

DR. POST further remarked that there was intense jaundice in both cases, extreme irritability of the stomach, and obstinate vomiting, but death did not occur from coma, as with bile-poisoning.

He had at one time under his care a gentleman who was attacked with febrile symptoms, accompanied by acute pain in the right hypochondrium. At first he suspected pleurisy, but there was no evidence of this affection on physical examination. The patient continued to suffer from the localized pain, but gradually improved, so that he was able to get to Long Island, and Dr. Post lost sight of him temporarily. The acute febrile symptoms had in a measure subsided. During the patient's absence in the country there was a sudden aggravation of the symptoms, and a neighboring physician was called in, who found the man suffering from pneumonia, and was also very much disposed to question Dr. Post's diagnosis with regard to the early history of the case. The attack of pneumonia was a severe one, and was complicated with copious expectoration of dark chocolate-colored fluid. Dr. Post saw the patient subsequently, and found a collection of fluid in the chest, and drew off a considerable quantity of very viscid, chocolate-colored pus. A short time before the patient's death, there was a copious discharge from the bowels of the same material. It was evident that the case was one of hepatic abscess, which had opened into the cavity of the pleura, and had also communicated with the bronchial tubes, and afterwards had probably opened into the colon.

DR. GEORGE A. PETERS referred to a case under his observation some years ago, in which the patient had an attack of trouble apparently in the liver, and finally there was expectorated the contents of a large hepatic abscess, which had opened into a bronchial tube. The patient made a complete recovery. Broken-down liver tissue was found in the material discharged from the first. Subsequently the patient expectorated bile and pus for several weeks, but ultimately recovered, lived for several years, and died of another disease, the original abscess having healed.

Dr. Post saw a lady many years ago who was subject to attacks of acute pain in the epigastric region and right hypochondrium, attended with jaundice lasting for a few days, and which were relieved by the use of opiates and other remedies. These attacks appeared at irregular intervals. On one occasion the patient was seen by the late Richard K. Hoffman, who bled her freely with immediate relief, and she never had a return of these attacks, although she had previously suffered from them repeatedly.

DR. MARKOE said that Dr. Post's case reminded him of one in which the patient, about twenty years before his death, had suffered from what seemed to be inflammation of the liver, and for many days his life was despaired of. The late Dr. Francis saw the patient with him in consultation, and finally suggested that it would be well to bleed, to which suggestion Dr. Markoe acceded, and Dr. Francis bled the patient largely, which gave great relief. Nevertheless the symptoms progressed, and again the patient seemed to be *in extremis* from dyspnœa, and there was a great prominence of the entire hypochondriac region, which was exceedingly tense, but there was no fluctuation. After about two weeks, expectoration of an immense quantity of pus took place, and coincident with this all the symptoms abated. The diagnosis of hepatic abscess seemed to be confirmed by this fact, and that the abscess had discharged through the bronchial tubes. Dr. Markoe's impression at first was

that it was a post-hepatic abscess which had found its way through the lung. After several months the patient recovered substantially, although the expectoration would nearly cease and then return somewhat, and after nearly a year he at times expectorated bile, and subsequently for several years the patient expectorated bile at intervals, which indicated that it was originally an abscess of the liver that had opened into the bronchial tubes, and that a fistula remained. The pus first expectorated was of ordinary color.

DR. MARKOE asked for the experience of the members with reference to the appearance of gall-stones in the passages from the bowels after symptoms of obstruction had existed and suddenly disappeared.

DR. BRIDDON said that he had often searched for gall-stones under these circumstances, but had never been able to find them.

DR. MARKOE said that he asked the question because he saw, many years ago, a lady, sixty years of age, who had been subject to attacks which had been diagnosticated as of this character, and undoubtedly the diagnosis was correct. These attacks were very severe, indeed, and extended over a history of several years. After one of the most severe attacks, she passed a gall-stone, as large as the last joint of his thumb, and from that time the symptoms ceased, and she never had another attack.

DR. KEYES referred to a case, that of a young woman living out of town, whom he had attended during a few weeks while she was in the midst of a number of attacks of the most intense jaundice. The fresh onsets of jaundice repeated themselves for two or three years, and on one of these occasions she was covered with ecthymatous pustules due to scratching, suffered from vomiting, emaciated very much, and her distress was so continuous that she lived chiefly upon morphine and chloroform. The patient said to him that gall-stones had been found in the discharges from the bowels on several occasions. About one month ago Dr. Keyes saw the patient, while again accidentally in the city, when she told him that she was finally cured by taking large doses of phosphate of soda for a number of months. The mother, and also the grandmother of the patient, had suffered from similar attacks.

DR. BRIDDON could bear testimony concerning the efficacy of phosphate of soda in this class of cases, as he had employed it with apparent success in the treatment of three patients. In one the attacks were markedly severe, and the patient had taken morphine, large quantities of olive oil, and many other remedies. He put her upon the use of one drachm of the phosphate of soda three or four times a day, first recommended, as he recollected, by Dr. Bartholow, and she continued these doses for a long time, and has been free from the attacks ever since.

DR. L. M. YALE remarked that the use of phosphate of soda in hepatic troubles was much older than Dr. Bartholow, and that Dr. Stephenson, of Edinburgh, had, a number of years ago, urged it especially for children, under the conditions in which the gray powder had usually been employed. With regard to the use of olive oil, he thought that it had been determined that the supposed discharge of gall-stones after its use was really due to a sort of saponification of the excess of oil, the masses being usually fatty.

DR. POST was once called to see a lady who was suffering from symptoms of obstruction of the bowels, and on examination he found a solid mass occupying the rectum, which, when scooped out, was found to contain hundreds of pills embedded in hard fecal matter, the whole mass resembling the mineral known as pudding stone.

DR. GEORGE A. PETERS referred to the case of a young lady who took a great number of cathartic pills without any effect, and it was conjectured by some that she did not take them because of the immense number which she said she had swallowed without any result. It was subsequently discovered that she sewed up each pill in a piece of tamarind skin, and she also had an accumulation of undissolved pills.

DR. POST inquired whether, when gall-stones had reached a size sufficient to produce symptoms of obstruction, they passed through the duct directly, or ulcerated their way into the bowel?

DR. MARKOE referred to a specimen in the New York Hospital Museum, in which a large gall-stone had passed partly through the duct, and had there become impacted and remained, seeming to illustrate the possibility of gall-stones of considerable size passing through the duct.

DR. H. B. SANDS believed that when the gall-stone was a very large one, such as would be likely to occasion intestinal obstruction, it never passed through the duct, but always into the duodenum by ulceration, the intestine having become previously adherent. In answer to one of the questions as to gall-stones being seen in the discharges from the bowel, he recalled a case which he saw in consultation with Dr. Chamberlain, in which a lady had been very ill, was jaundiced, and had passed quite a number of gall-stones, probably from six to twelve, and the pain and other symptoms had subsided. What impressed them most was the consistency of these gall-stones, which were faceted, of the diameter of about a fourth of an inch, but were almost as soft as putty. It seemed singular that they should have preserved their shape while passing through the bile-duct.

The late Dr. Parker passed a gall-stone of unusual size, having a diameter of about half an inch. He was very ill before it escaped into the intestine; had great pain, accompanied with jaundice and chills, but his severe symptoms subsided immediately after the passage of the stone; and, so far as Dr. Sands was aware, the patient did not pass any more, nor have any further trouble subsequently from this cause. When his body was examined after death, it was discovered that the gall-bladder was obliterated; there was no cavity, although the site of the bladder could be distinctly seen. The hepatic duct was present, but there was no cystic duct. It seemed probable that, at the time the large gall-stone passed, an ulceration was set up which resulted in the obliteration of the gall-bladder and the cystic duct.

PENDULOUS CELLULO-FIBROUS TUMOR.

DR. C. K. BRIDDON presented a specimen which was interesting chiefly on account of its rarity and size. It was removed from the inner aspect of the thigh, at about its middle, of a woman thirty-five years of age, and had been nineteen years in developing. The entire growth was eight and one-half inches in length, of which four

and one-half inches belonged to the tumor, the rest being the pedicle; the circumference of the tumor was eight inches.

CHICAGO GYNECOLOGICAL SOCIETY.

Stated Meeting, January 16, 1885.

THE PRESIDENT, H. P. MERRIMAN, M.D., IN THE CHAIR.

DR. E. C. DUDLEY read a paper on an interesting and unusual case of

DOUBLE OVARIOTOMY.

The patient, 18 years old, unmarried, came to Mercy Hospital, about eighteen months ago, to consult Dr. Dudley about marked abdominal enlargement. The diagnosis of monocystic tumor of the parovarium or broad ligament was made. The cyst was aspirated, and two gallons of fluid were removed. This fluid possessed the following characters: sp. gr. 1.005; neutral reaction; limpid as water; odorless; colorless; on microscopical examination no morphological constituents were detected; on chemical examination certain mineral salts were found, but no albumen. The patient experienced so much relief, after aspiration, that she left the hospital with the impression she was permanently restored to health. About three months ago, she visited Dr. Dudley at his office. It was found the cyst was partially refilled. An operation was determined upon.

The preparatory treatment of the patient—apart from tonics, the most nutritious of foods, frequent baths, and finally a Turkish bath, immediately preceding the day of operation—consisted in the exhibition of remedies designed to increase the tonicity of the muscular coats of the intestines, and to expel all the gases. For this purpose the patient was given, two or three times daily, a mixture of calumba, rhubarb, and compound tincture of cardamom. In a case, operated upon early in the autumn, Dr. Dudley had experienced much difficulty in the management of the intestines, which were distended with gas. In this case, subjected to the preparatory treatment just detailed, absolutely no difficulty in that direction was encountered. The *mons veneris* was shaved, and the vagina irrigated, immediately before operation. The details of rigidly antiseptic surgery were observed with reference to the operating room, instruments, operator, and assistants.

October 29.—Dr. Dudley, assisted by Dr. W. W. Jaggard, Dr. R. W. Bishop, and Dr. W. E. Casselberry, performed ovariotomy, and removed both ovaries and tubes, together with a large monocyst of the left broad ligament. The pedicle of the large cyst was very vascular, and after transfixion with the passage of the ligature around each half, the operator was compelled to ligature *en masse* below the point of transfixion. The pedicle was afterwards seared above the Baker Brown clamp with Paquelin's thermo-cautery. Ether was employed as the anæsthetic. The patient reacted well. At noon, two hours after operation, temperature 100.7°; pulse 150; respiration 20. She complained of nausea. At night, temperature 100.8°; pulse 115; respiration 20. Nausea continues; no tympanites.

30th.—Morning temperature 100.4°; pulse 112; respiration 20. Evening temperature 101°; pulse 124; respiration 20. Throughout the day the patient moaned and tossed, complained of nausea, vomited incessantly; a peculiar talkative delirium ensued. Morphia and atropine were given to suppress vomiting; discontinued the atropine, fearing its cerebral action. Hot water, as suggested by Mr. Keith, was tried, with hope of checking nausea and vomiting, without success. The deodorized tincture of opium was substituted for morphia. The talkative delirium, nausea, and vomiting, continued unabated. The patient retained only a little ice-water at long intervals.

31st.—Morning temperature 99.8°; pulse 110; respiration 20. Evening temperature 99.8°; pulse 110; respiration 20. Nervous symptoms greatly exaggerated; nausea and vomiting unabated; pain in the abdomen complained of at intervals. Codeia was substituted for the other opiates. Small quantities of milk and lime-water, at intervals, were exhibited. The patient remained in the same condition. Talkative delirium, no sleep, nausea and vomiting, pain in the abdomen at intervals, no tympanites.

Nov. 1.—Morning and evening temperature 99.7°; pulse 106; respiration 20. Talkative delirium, nausea, vomiting of bile—the "mouth-filling" of Mr. Keith—adbominal pain, no tympanites. She commenced to menstruate, or, at least, blood began to escape from the vagina.

2d.—Morning temperature 98.8°; pulse 114; respiration 18. Evening temperature 98.6°; pulse 135; respiration 21. Nervous symptoms more distressing; nausea and vomiting continuing; patient becoming emaciated; face taking on a pinched, anxious expression. Valentine's beef-juice exhibited; mustard to epigastrium; strychnia in small doses; champagne ℥iss.

3d.—Morning, 8 A. M., temp. 101°; pulse 130. 10 A. M. temp. 101.2°; pulse 160. 10.30 A. M., temp. 101.6°; pulse 178. Persistence of wild, talkative delirium, nausea, vomiting, abdominal pain. The pulse, while very rapid, was not the feeble pulse of collapse. In a consultation with Dr. W. H. Byford on the previous day, it was decided that the patient was dying of exhaustion. Dr. Byford was averse to reopening the abdominal incision. Dr. Dudley had one case of peritonitis, following perforation of the posterior uterine wall, in Mercy Hospital, that died of septic poisoning, although the temperature did not rise above 100°.

With the aid of Dr. R. W. Bishop, Dr. Dudley etherized the patient, removed four or five stitches from the lower end of the abdominal incision, and inspected the cavity of the abdomen. The peritoneum was injected; no lymph was noticed; no gas in the intestines. The pedicles were not covered with lymph. A disinfected sponge, on a holder, was passed into the cul-de-sac of Douglas; about one-half of a fluidounce of bloody serum was removed. This red-stained fluid was odorless; it was not further examined. Feeling no good had been accomplished, the incision was reunited. This operation was performed at 10.30 A. M.

Temp. at 12 M., 101°; pulse, 150.
" 2 P. M., 100°; " 144.
" 3 " 100°; " 135.
" 7 " 100°; " 140.

Jactitation, wild delirium, nausea, and vomiting; pain in the region of the cardiac axis; no tympanites. Rectal alimentation.

4th.—Morning temp. 100°; pulse 135–150. Whiskey, beef-tea and milk at regular intervals; bisulphate of quinia per rectum. Persistence of the symptoms before detailed.

In the afternoon the tongue was dry, cracked, ready to bleed; decidedly less nausea and vomiting. The nurse was directed to give the patient an enema of soap and water, with extract of ox-gall. One quart of this mixture was injected into the bowel. No evacuation of the contents of the rectum following, a tube was introduced, which was followed by that classical sign, the audible passage of flatus. Mr. Keith says that if the intestines have sufficient muscular energy to expel flatus, the prognosis becomes more favorable. It is probable a reversed peristalsis occurred, and the injection was entirely absorbed. One hour afterwards the tongue became moist. Evening temp. 101°; pulse 135. Acting on the suggestion from the enema, one quart of strong beef-tea was introduced into the bowel.

5th.—Patient evidently in better condition. Temp., morning and evening, 98–99°; pulse 120–130. One quart of strong beef-juice was exhibited per rectum, and carried well up into the bowel. About three-fourths of this quantity was retained. Slight nausea and vomiting; bowels were moved spontaneously, with evacuation of a large quantity of dark, tarry, fetid feces. The sutures originally inserted, were removed.

6th.—Morning temp. 98.5°; pulse 90. Evening temp. 98.1°; pulse 115. Bowels were again moved spontaneously, with evacuation of dark, tarry, fetid feces, all the symptoms of the patient assuming a favorable character. Beef-tea, whiskey, quinine, and nutrient enemata continued. From this time on, the patient made an uninterrupted recovery. At the end of two weeks she was removed to St. Luke's Hospital. She is now in good health, and pursuing her usual avocation. In conclusion, Dr. Dudley called attention to the three following subjects, and requested that the discussion should be more particularly limited to their consideration.

I. Preparatory treatment of the intestinal tract. Is it possible to render the intestines manageable during an operation in the abdominal cavity, by any dietetic or medical agencies? The escape of the intestines without the abdominal parietes was a very distressing complication. The shock of the operation was increased; large vascular areas were rapidly cooled, notwithstanding the fact that they might be enveloped in warm, disinfected fabrics. It was not always easy to return the intestines to the cavity of the abdomen, and even then there was danger of strangulation. He was of the opinion that, in the case reported, the rhubarb, calumba, and cardamon were active in restoring tonicity to the muscular coats, and in the expulsion of flatus.

II. The retention of enemata. It was a matter of surprise to him that one quart of fluid, exhibited per rectum, on three successive days, should be retained. He supposed that the liquid portions of the injections were absorbed at once, in consequence of the state of the tissues, resulting from exhaustion. The return of the tongue to a moist condition, within a very short space of time, immediately following the injection, was evidence in favor of this explanation.

III. The reopening of the abdominal incision. Had it done any good? What produced the excessive nervousness? What was the cause of the nausea and vomiting?

The problem was an intricate one. It had been asserted that a very tight ligature around the pedicle can act as a reflex irritant. The sutures in the abdominal incision are sufficient, at times, to produce various obscure reflex symptoms. He had one case—his first case—in which uncontrollable vomiting yielded immediately upon withdrawal of a rubber drainage-tube. It may have been that the case reported was just at the point of recovery when the abdomen was reopened.

The fluid removed was small in quantity and without odor. The peritoneum, however, can secrete with wonderful rapidity, and then absorb the secretion. He had not examined the fluid microscopically or chemically. He had dusted into the cul-de-sac a small quantity of iodoform. Whether *post hoc* or *propter hoc*, the patient recovered.

If it was a case of exhaustion, the beef, milk, and whiskey deserved the credit. If a case of sepsis the reopening of the incision was the potent factor. In answer to a question by Dr. Sawyer, Dr. Dudley said that although the delirium of the patient was attended with visions of snakes, alcohol was out of the question, from his own knowledge of the habits of the patient. In answer to Dr. Merriman's question as to the preparation of the ligatures, Dr. Dudley said that silk thread was used exclusively for sutures and ligatures. This silk thread was boiled for ten minutes in a ninety-five per cent. solution of carbolic acid; then for thirty minutes in a five per cent. solution of carbolic acid; finally, it was deposited in a solution of the bichloride of mercury, one to four thousand. Dr. Dudley then exhibited the specimens. The right ovary was slightly enlarged, and in the commencing stage of cystic degeneration. A cyst about the size of a hickory nut was found in the right broad ligament. The left ovary was converted into a mass of fibrous tissue, about the size and shape of a kidney. Springing from the left parovarium or from the left broad ligament was the large monocyst, to which allusion has been made. This cyst, at the time of the operation, contained about forty pounds of fluid.

DR. HENRY T. BYFORD thought that the reopening of the abdominal incision was unnecessary. Relief could not have come from the removal of such a small quantity of fluid as one-half fluidounce. The improvement immediately following the operation was probably due to the stimulant effect of the ether. The delirium seemed to him to be that of alcohol or cerebral anæmia. He did not think that the symptoms of nausea and vomiting could be explained by any local irritant such as ligatures or sutures. It was a case of exhaustion cured by the judicious exhibition of beef, whiskey, and milk.

DR. EDWARD W. SAWYER said that the patient owed her life to the persistent bravery of the operator, and congratulated him upon his success. He was surprised to hear that no albumen was detected in the aspirated fluid. Friedrichs says albumen is always present in such cases, but absent in echinococcus cysts.

DR. F. M. WILDER said that egg albumen in water was frequently tolerated by the stomach when other matters were rejected.

DR. W. W. JAGGARD thought that the secretory and resorptive functions of the peritoneum were matters of

positive knowledge. Dr. Anton Wölfler, in a recent paper, has taken substantially Dr. Dudley's position. It is quite possible that the one-half fluidounce of blood serum, found in the cul-de-sac, represented the ultimate stage of resorption of a much larger quantity of fluid.

One-half fluidounce of fluid, however, may contain enough sepsin, or sufficient bacteria, to produce the most fatal pyæmia. There is no quantitative relation in regard to the virulency of certain poisons.

The mere reopening of the abdominal incision seems to act, under certain conditions, in a favorable manner. The reason is unknown. It is an empirical fact acknowledged by a number of leading surgeons.

He thought Dr. Dudley deserved great credit for his action, in taking up the suggestion of numerous operators, when he knew positively no foreign body was contained within the abdominal cavity.

DR. W. E. CASSELBERRY wished to emphasize the importance of the preparatory treatment of the intestinal tract. He had been present at both of the operations to which Dr. Dudley had referred, and was struck by the difference in the behavior of the intestines. The mixture employed by Dr. Dudley resembled a favorite formula of the late Dr. George B. Wood. This formula was advised for the expulsion of flatus, and restoration of tone to the intestinal muscular walls.

DR. D. T. NELSON said that it was highly important to avoid the use of opium, when it was possible. The less opium, in general terms, the less the tendency to vomiting. As to the pedicle, he entertained grave doubts as to the propriety of passing the ligature *en masse*. In strangulated hernia, uncontrollable vomiting frequently resulted from the inclusion of omentum in the ligature. Would it not be better to open the pedicle, and pass a ligature around each vessel separately? He thought Bantock, Thornton, and Spencer Wells advised the same treatment as in the securing of the vessels in an amputated leg.

DR. SAWYER said that he had seen Dr. John E. Owens remove a testicle; following the passage of the ligature around the cord, uncontrollable vomiting occurred. The reopening of the abdominal incision was looked upon with too much fear. He had been present at an operation in which all the blood had not been removed from the cul-de-sac; the patient died of septicæmia. At the autopsy, Douglas's pouch was filled with blood. An operation might have saved life. Another case, in point, was one of normal, double ovariotomy. After the operation, the patient sank rapidly. The operator concluded the patient was suffering from internal hemorrhage. Twelve hours later, the abdominal incision was reopened, and after two hours' search the bleeding vessels were secured. The patient recovered.

DR. H. P. MERRIMAN endorsed Dr. Dudley's reopening of the abdominal incision in the case presented. In regard to the preparatory treatment of the intestinal tract, he was not certain that the exhibition of calumba, rhubarb, and cardamom had produced the favorable result in the one case, nor that the neglect of preparatory treatment was operative in the troublesome condition in the other. He did not think the opium was the cause of vomiting, since the nausea disappeared while the patient was still under the influence of opiates.

He did not think the ligature *en masse* or the clamp could be replaced by the method suggested by Dr. Nelson. The danger from hemorrhage was too great. It was an admirable subject for study. If the pedicle was completely destroyed, the danger of pinching nerve filaments would be less.

The quantity of fluid removed after reopening the incision was not sufficient to account for the improvement in symptoms.

DR. NELSON referred to the compression forceps, and ligature placed above, as designed to obviate the inclusion of nerves still sensitive.

DR. DUDLEY closed the discussion. The mere opening of the abdomen seemed to act in a remarkable manner under certain conditions. Tubercle of the peritoneum, papilloma of the omentum, were pathological states which had been influenced favorably by the procedure.

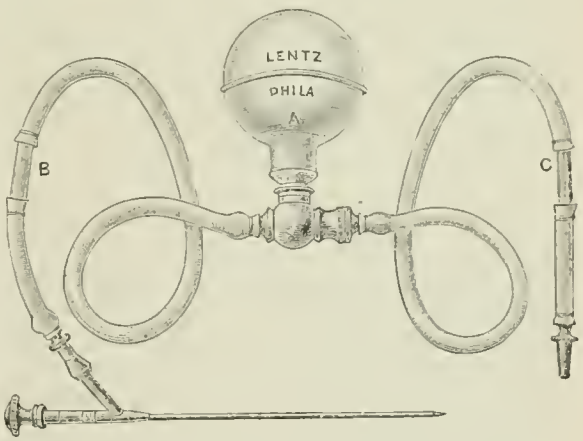
Cocculus indicus is supposed to have the same effect as the mixture exhibited to prepare the intestinal tract. It is not necessary that a discharge should have a foul odor, or be large in quantity, in order to be capable of producing pyæmia.

NEW INVENTIONS.

A NEW ASPIRATOR.

EVERY practitioner has occasional need for an aspirator, but the cost of those thus far placed on the market is such as to deter many from possessing one.

Dr. Frederic Cross, of Kingston, Pa., has devised one extremely simple in construction, which can be used without an assistant, and has thus far answered every demand made upon it. It is manufactured by Mr. Charles Lentz, of No. 27 South Tenth Street, Philadelphia. The accompanying cut illustrates its construction.



In place of an air-pump a strong rubber suction ball A draws the fluid through the canula, a valve prevents regurgitation, and another valve discharges the fluid through the distal tube of rubber. Glass peep-tubes B and C enable the flow of fluid to be observed, while the distal end, if wished, is kept immersed in the dejecta. After evacuating the sac the tube from the canula can be removed, and can be attached to the other end of the tube, which will enable water or a medicated wash to be injected into the cavity. Again, if the tubes be reversed, the cavity can again be evacuated.

CORRESPONDENCE.

COCAINE IN URETHRAL SURGERY.

To the Editor of THE MEDICAL NEWS.

SIR: I send you the following cases from my note-book, with the hope that they may elicit the experience of others in the same direction.

Seminal Weakness. Nov. 25, 1884. Being desirous of faradizing the urethra of W. G., I found the introduction of the urethral electrode prevented by the extreme sensitiveness of the mucous membrane. Having the day before secured a 2 per cent. solution of the hydrochlorate of cocaine, ʒss was slowly injected and retained for a few minutes, labile pressure upon the under surface of the penis being made to distribute the solution. The electrode was then introduced, and passed, without pain, into the bladder. Having been withdrawn to the desired point, the operation was proceeded with without further trouble.

Spasm of the Sphincter Vesicæ. F. R. W., Nov. 30, 1884. Introduction of the urethral electrode for faradization of the muscle was rendered impossible, as the sensitiveness of the mucous membrane just inside the meatus caused the patient intense suffering when such manipulation was attempted. The injection of a 2 per cent. solution of cocaine relieved the condition in five minutes. This patient has been seen by me several times for this same trouble, and I have heretofore relieved the sensitiveness of the urethra by the injection of a weak solution of carbolic acid in glycerine.

Chronic Cystitis. C. A. R., Dec. 20, 1884. Patient has been under observation for several months, and all attempts to treat the case by internal applications of galvanism have been unavailing on account of the pain attendant upon the introduction of the urethral electrode. To-day I employed ʒss of a 2 per cent. solution of hydrochlorate of cocaine; and, there being no amelioration of the sensitive condition at the expiration of fifteen minutes, I injected the same amount of a 4 per cent. solution, which I obtained by evaporating a 2 per cent. solution over a sand-bath. This produced the desired effect in a very few minutes.

Stricture of large Calibre in Spongy Portion. H. S., Jan. 5, 1885. Whole urethral tract very sensitive. Injection of ʒss of a 2 per cent. solution of muriate of cocaine removed the hyperæsthesia from the greater part of the urethra, but produced no amelioration at the seat of stricture. Another injection of the same solution, located as well as possible with a long-nozzle syringe at the strictured portion, failed to relieve the difficulty. The next day, ʒss of a 2 per cent. solution was injected to allay the general hyperæsthesia, followed immediately by the application of a 4 per cent. solution in glycerine to the seat of the stricture by means of a canula and sponge. No relief of the sensitiveness was obtained, but the patient became extremely pale, remarked that it was growing dark, perspiration stood upon his face and hands, and in a moment more he had ejected the partially digested contents of his stomach upon the floor. He soon recovered, and felt no further disturbance.

The above cases are of interest as examples of the value of cocaine in urethral instrumentation, and the last one indicates a field of investigation as to the depth to, and the tissues upon, which this alkaloid acts. The not serious, but decidedly unpleasant, symptoms in the last case are mentioned not that cocaine necessarily bears a causal relation to them, but that they may be remembered as having occurred in conjunction with the application of a 4 per cent. glycerole immediately following the injection of a 2 per cent. solution. I have not determined the existence of an ulcer at the seat of stricture which might account for the symptoms, and I have not developed them at subsequent operations, at which times I have not applied the cocaine so freely.

EZRA A. BARTLETT, M.D.

83 HAWK STREET, ALBANY, N. Y.
January 25, 1885.

NEWS ITEMS.

WASHINGTON.

(*From our Special Correspondent.*)

A BILL CONCERNING THE APOTHECARIES OF THE ARMY AND NAVY.—MR. RANDALL introduced a bill into the House of Representatives with the following provisions:

H. R. 8017. That the apothecaries of both Army and Navy shall receive a commission, those of the Army to have the relative rank of a second lieutenant of infantry, those of the Navy to have the relative rank of an ensign in the Navy.

Sec. 2. That the said apothecaries of both Army and Navy shall not be in line of promotion.

Sec. 3. That the said apothecaries of both Army and Navy shall receive the pay and emoluments of said grades in their respective branches of the service.

Sec. 4. That the said apothecaries of both Army and Navy shall not be entitled to any of the benefits that may be conferred by this Act until they have passed a satisfactory examination in the following branches, namely: Elementary chemistry, materia medica, pharmacy, and botany.

Sec. 5. That the said Board of Examiners shall consist of three medical officers, to be chosen, those from the Army, by the Secretary of War, and those from the Navy, by the Secretary of the Navy.

Sec. 6. That each and every apothecary who shall be serving in such capacity, at the time of the passage of this Act, shall be granted an examination, and if found proficient in the above-mentioned branches, shall receive a commission in that branch of the service to which he may be attached.

Sec. 7. That this Act shall take effect immediately after the passage of the same, or so soon thereafter as the requirements above mentioned in regard to the said Board of Examiners can be met.

THE GARFIELD MEMORIAL HOSPITAL.—A report having been made in the newspapers that this hospital was about to close its doors for want of funds, a statement has been published that its financial condition is not so depressed as has been represented. It certainly is in need of funds, but it is out of debt. Since its opening, in June, 1884 (May 30th, to be more correct), 115 patients have been received, of whom 79 occupied free beds. The Surgeon-General of the Army, Dr. Murray, speaks unqualifiedly in approval of the man-

agement. The ladies who have undertaken to procure funds for the institution are still sanguine of being able to provide the necessary ways and means for its support.

A BILL FOR THE PROMOTION OF ANATOMICAL SCIENCE IN THE DISTRICT OF COLUMBIA passed the House on January 12th, is now before the Senate, and it is hoped will become a law before the close of the present session. In its provisions it is of the first importance to the medical colleges of the District, which this winter have a pretty full attendance, and bid fair to continue in a prosperous condition. The medical department of the Columbian University (the National Medical College) has opened its doors to women during the present session, four of whom have already matriculated. This step was not taken without due deliberation, and the male students do not seem to be disturbed by the introduction of a new element into their midst.

The bill reads as follows:

Be it enacted, etc., That any public officer or officers, whether directors, trustees, superintendents, wardens, keepers, or managers, having lawful charge of, or control over, any hospital, prison, almshouse, jail, morgue, or asylum, within the District of Columbia, may deliver to the duly authorized agent of any medical college or colleges in the said District of Columbia, the bodies of such deceased persons as are required to be buried at the public expense, said bodies to be distributed among the several colleges equitably, the number assigned to each being proportioned to that of its students.

Provided, however, That, if the deceased person, during his last illness, of his own accord, requested to be buried; or if, within twenty-four hours after his death, any person claiming to be, and satisfying the authorities that he is, of kindred to the deceased, asks to have the body buried; or if such deceased person was a stranger or traveller, who suddenly died, the body shall not be so delivered, but shall be buried.

Sec. 2. That every physician or surgeon, before receiving such dead body, shall give to the officers surrendering the same to him a sufficient bond that each body shall be used only for the promotion of anatomical and surgical knowledge within the District of Columbia; and that, after having been so used, the remains thereof shall be decently buried; and whosoever shall use such body or bodies for any purpose other than that aforesaid, or shal remove the same beyond the limits of the said District of Columbia, and whosoever shall sell or buy such body or bodies, or in any way traffic in the same, or who shall disturb or remove bodies from graves in which they have been buried, shall be deemed guilty of a misdemeanor, and shall, on conviction, be imprisoned for a term not exceeding three years, at hard labor, in the District (or city) jail.

The Committee on the District of Columbia recommend the bill in the following words: There are now several flourishing medical schools in Washington well established, and one or more of them of long standing. It is known to all that such institutions cannot be carried on or proper training for the practice of medicine and surgery be given without ample experience in the dissection of the human cadaver. This fact is recognized and approved by all, and yet public opinion as strongly approves and demands stringent laws for the punishment of the desecration of graves in order to procure the necessary dissecting material. Hence the laws of the District are very severe, and properly so, against the crime of grave-robbing. With such laws in operation, and such necessities for the schools of medicine, the authorities of the District are compelled either to wink at this offence or seriously to cripple, if not to destroy, the efficiency and success of these schools. Furthermore, the heads of these institutions, professors and students of science, are compelled to supply their admitted necessities by confederating with and employing professional grave-robbers, and constantly to incur the risk of detection and criminal prosecution; and it being known in a community that the trade of resurrecting bodies for dissection is a common one, kindred and friends are frequently tortured with anxiety lest the hand of the resurrectionist shall remove the bodies of their dead.

This bill is intended to relieve from such fears, to do away with the necessity or temptation for violating the laws, and at the same time in an open and legal way to provide the requisite dissecting material for the study and advancement of anatomical science in the District. A careful comparison with the statutes of some of the States shows its provisions to be prudently and aptly framed, and intended to accomplish the purpose in view, in a manner as little repellant to public sentiment and sensibility as practicable.

A BILL TO REGULATE THE PRACTICE OF DENTISTRY IN THE DISTRICT OF COLUMBIA passed the House of Representatives on January 12. It provides for a board of examiners, and requires them to make proper inquiries into the fitness of all who practise dentistry in the District of Columbia, to issue cerificates of competency, and to keep a full register of dentists so practising. Non-compliance with the provisions of the Act is made punishable by a fine of not less than fifty dollars or more than two hundred dollars, in default of the payment of which, imprisonment for not less than thirty days nor more than ninety days. Nothing in the Act to be so construed as to prevent surgeons and physicians from extracting teeth and prescribing for or treating diseases of the mouth.

YELLOW FEVER.—Surgeon-General Hamilton, of the Marine-Hospital Service, has been informed of the existence of yellow fever in malignant form at Panama and Colon. In a single cemetery at Panama, there have been more than one thousand interments between July and December, and it is estimated that about 2400 people were buried in that city during the year 1884. It is suggested that all vessels coming from Colon and Panama to ports of the United States be watched with extreme care by health officers.

NEW YORK POLYCLINIC.—The Board of Directors and Faculty of the New York Polyclinic held their annual meeting on January 20. The Secretary submitted to the Board a report of the work done by the Polyclinic from its opening, November 7, 1882, to January 20, 1885, giving in detail the history of the organization of the school, its plan of work, and the results achieved. The number of practitioners who had studied

in the Polyclinic as members of the class was 463. The attendance for the present session was twenty-five per cent. in excess of any former year.

A NEW DYNAMOMETER.—At the last meeting of the Philadelphia County Medical Society, Dr. H. Leaman presented a dynamometer, by which he claims he can measure the value of that part of a uterine contraction which is available in the expulsion of the fœtus. It is intended to measure the expulsive force of the uterus minus the resistance in succession of the uterine cervix, pelvic walls, and perineum, and might be called a parturiometer. He thinks it will prove valuable as a means of determining when instrumental interference becomes necessary.

OHIO STATE SANITARY ASSOCIATION.—The second annual meeting of the Ohio State Sanitary Association will be held at Columbus, Ohio, February 5 and 6, 1885.

THE *Lacaze* prize of 10,000 francs has been awarded by the Faculty of Medicine of Paris to M. DEBOVE for his *Clinical Lessons on Tuberculosis*.

NOTES AND QUERIES.

COCAINE IN VAGINISMUS.

To the Editor of THE MEDICAL NEWS.

SIR: In your issue of last week, a statement is given, under "Medical Progress," of the successful application, in Paris, of muriate of cocaine for the relief of vaginismus. At the gynecological clinic of Jefferson Medical College, December 9th, Dr. Henry Morris made such application in a patient suffering from vaginismus, and with a very satisfactory result.

T. P.

PHILADELPHIA, Jan. 23, 1885.

CANADIAN REQUIREMENTS FOR THE DEGREE OF M.D.

IN reference to some remarks in THE NEWS of December 6th, Dr. Panton, of Portland, Oregon, calls our attention to the fact that the University of Toronto has, since 1877, rigidly required four full years for the degree in medicine, not allowing the optional year with a physician still permitted at many Canadian schools.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JANUARY 20 TO JANUARY 26, 1885.

TREMAINE, W. S., *Major and Surgeon.*—Granted leave of absence for one year on surgeon's certificate of disability.—*S. O. 14, A. G. O.*, Jan. 17, 1885.

MAUS, LOUIS M., *Captain and Assistant Surgeon.*—Granted leave of absence for two months on surgeon's certificate of disability, with permission to leave the Division of the Missouri.—*S. O. 16, A. G. O.*, Jan. 20, 1885.

STEPHENSON, WILLIAM, *First Lieutenant and Assistant Surgeon.*—Relieved from duty at Fort Omaha, Neb., and ordered to Fort Niobrara, Neb., for duty.—*S. O. 6, Department of the Platte*, Jan. 19, 1885.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE, FROM OCTOBER 1 TO DECEMBER 31, 1884.

BAILHACHE, P. H., *Surgeon.*—Granted leave of absence for thirty days, Oct. 9, 1884. To proceed to Wilmington, N. C., as inspector, Nov. 10, 1884. Relieved from duty as chief of purveying division; to proceed to Philadelphia, Pa., and assume charge of the Service, Dec. 10, 1884.

WYMAN, WALTER, *Surgeon.*—Granted leave of absence for fifteen days, Oct. 15, 1884. Leave of absence for fifteen days in December, 1884, and thirty days in January, 1885, also for a further period from January 31, 1885, without pay, and with permission to visit Europe, Dec. 8, 1884.

PURVIANCE, GEORGE, *Surgeon.*—When relieved, to proceed to Cincinnati, O., and assume charge, Nov. 12, 1884. To Louisville, Ky., as inspector, Nov. 24, 1884.

AUSTIN, H. W., *Surgeon.*—To proceed to Boston, Mass., and assume charge, Nov. 12, 1884.

SMITH, HENRY, *Surgeon.*—When relieved, to proceed to Cairo, Ill., and assume charge, Nov. 9, 1884. Granted leave of absence until January 15, 1885, Dec. 17, 1884.

STONER, G. W., *Passed Assistant Surgeon.*—Relieved from duty at Delaware Breakwater Quarantine, to proceed to Cairo, Ill., in accordance with former orders, Oct. 14, 1884. To Norfolk, Va., Nov. 19, 1884.

IRWIN, FAIRFAX, *Passed Assistant Surgeon.*—To close Cape Charles Quarantine, October 31, 1884, proceed to Washington, and report to Surgeon-General, Oct. 14, 1884. To take charge of the Service, port of Georgetown, D. C., and detailed as Acting Chief Clerk, Surgeon General's Office, Oct. 30, 1884. To Philadelphia, Pa., and Baltimore, Md., as inspector, Dec. 30, 1884.

MEAD, F. W., *Passed Assistant Surgeon.*—When relieved, to proceed to Baltimore, Md., and assume temporary charge, Dec. 10, 1884.

HEATH, W. H., *Passed Assistant Surgeon.*—Granted leave of absence for thirty days on account of sickness, Oct. 24, 1884. When relieved, to proceed to Pittsburg, Pa., and assume charge, Dec. 26, 1884.

GUITÉRAS, JOHN, *Passed Assistant Surgeon.*—To report to Surgeon-General, Nov. 8, 1884. Leave of absence extended fifteen days without pay, Nov. 14, 1884.

WHEELER, W. A., *Passed Assistant Surgeon.*—Relieved at Chicago, Ill., to proceed to Buffalo, N. Y., and assume charge, Dec. 26, 1884.

BANKS, C. E., *Passed Assistant Surgeon.*—When relieved, detailed for special duty; upon completion of same, to Boston, Mass., for duty, Oct. 28, 1884.

PECKHAM, C. T., *Passed Assistant Surgeon.*—Granted leave of absence for twenty days, Dec. 26, 1884.

BENNETT, P. H., *Assistant Surgeon.*—When relieved, to rejoin his station (Detroit). Nov. 20, 1884.

AMES, R. P. M., *Assistant Surgeon.*—To report to Surgeon Hutton, at Louisville, Ky., for examination for promotion, Nov. 13, 1884.

DEVAN, S. C., *Assistant Surgeon.*—To proceed to Tacoma, W. T., as inspector, Oct. 14, 1884.

KALLOCH, P. C., *Assistant Surgeon.*—Granted leave of absence for thirty days, Nov. 19, 1884.

GLENNAN, A. H., *Assistant Surgeon.*—To proceed to Key West, Fla., for temporary duty, Oct. 8, 1884.

BATTLE, K. P., *Assistant Surgeon.*—Granted leave of absence for thirty days on account of physical disability, Dec. 6, 1884.

BROOKS, S. D., *Assistant Surgeon.*—To proceed to New York, N. Y., for temporary duty, Oct. 20, and Nov. 26, 1884.

WHITE, J. H., *Assistant Surgeon.*—To proceed to New Orleans, La., for temporary duty, Oct. 3, 1884. To escort insane seamen to Government Hospital for the Insane, Dec. 17, 1884. Granted leave of absence for fifteen days, Dec. 23, 1884.

RESIGNATION.

SMITH, HENRY, *Surgeon.*—Resignation accepted by the Secretary of the Treasury, to take effect January 15, 1885, Dec. 17, 1884.

APPOINTMENT.

WHITE, JOSEPH H., M.D., of Georgia, having passed the examination required by the Regulations, was appointed an Assistant Surgeon by the Secretary of the Treasury, Oct. 2, 1884.

PROMOTIONS.

PECKHAM, C. T., *Passed Assistant Surgeon.*—Promoted and appointed Passed Assistant Surgeon by the Secretary of the Treasury from December 1, 1884, Nov. 28, 1884.

AMES, R. P. M., *Passed Assistant Surgeon.*—Promoted and appointed Passed Assistant Surgeon by the Secretary of the Treasury from December 1, 1884, Nov. 28, 1884.

DEVAN, S. C., *Passed Assistant Surgeon.*—Promoted and appointed Passed Assistant Surgeon by the Secretary of the Treasury from December 1, 1884, Dec. 5, 1884.

URQUHART, F. M., *Passed Assistant Surgeon.*—Promoted and appointed Passed Assistant Surgeon by the Secretary of the Treasury from December 1, 1884, Dec. 5, 1884.

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. XLVI. SATURDAY, FEBRUARY 7, 1885. NO. 6.

ORIGINAL LECTURES.

GENERAL ATHEROMA OF THE ARTERIES, WITH PROBABLE THROMBOSIS OF A CEREBRAL VESSEL.

A Clinical Lecture delivered at the Philadelphia Hospital.

BY HORATIO C. WOOD, M.D., LL.D.,
CONSULTING PHYSICIAN TO THE PHILADELPHIA HOSPITAL FOR THE INSANE.

(Reported by William H. Morrison, M.D.)

GENTLEMEN: The case that I show you this morning is in the person of an old Garibaldian, who fought under that General in Rome in 1848, and followed his fortunes in Central and South America. This history is of some medical importance, and we at once draw the conclusion, that we have to deal with a man who has suffered much exposure and led a hard life, and, as he states himself, has been through most forms of dissipation. Thirty years ago, he contracted a chancre which was followed by secondary symptoms. He has always been accustomed to the use of alcohol in considerable quantities. I do not mean that he was an habitual drunkard, but that he used alcohol every day, and was probably always under its influence to a certain extent. He considered himself to be in good health until two weeks ago. At that time, while working at his trade, which is that of a harness maker, he fell to the floor in some kind of a spell. So far as can be made out from careful and repeated questioning, he was not convulsed, and, he thinks, that he did not entirely lose consciousness. Shortly after the occurrence of this spell, the patient suffered from violent headache, and this has been repeated several times since. Headache seems to have been absent previous to the attack.

The points which present themselves for diagnosis are as to the general condition of his tissues and the nature of the spell from which he suffered. Examining the patient somewhat closely, it is at once discovered that he has dimness of vision in the left eye, and that in the right, sight is almost gone. A little further examination shows that this has no connection with the brain symptoms for the simple reason that there is a marked cataract in the right eye. The pupil of the left eye is dilated, and there appears to be a commencing cataract in it.

Taking his hand, in order to feel his pulse, I at once notice that the radial artery is entirely rigid. I have under my finger what appears to be a hard irregular tube. The artery is evidently in a condition of advanced atheromatous change. The change has not advanced so far in the temporal arteries as in the radial, but the vessel is evidently harder than normal. Again looking at the eye, marked arcus senilis is observed in both eyes.

Now, gentlemen, without going further for the moment, let me call attention to the facts which have already been discovered. This man has atheromatous arteries, and he has marked arcus senilis, and in all probability, therefore, he has more or less pronounced atheromatous degeneration of all the arteries. The moment you approach a patient and placing the finger on the pulse, find this hard and rigid condition of the radial, that moment your prognosis, even in what may seem the simplest acute disease, should become doubtful or grave.

In illustration of this point, let me describe a case which I saw last spring. I attended a lady who died from a disease, the nature of which it is not necessary to mention. The day after her death, her husband, who was supposed to be in perfect health, complained of a sore tooth. He said that he had had it filled a few days before and that it was beginning to hurt him. I tapped the tooth with a pencil, and found that it was sore at the root, showing that there was a periodontitis. I advised him to have the tooth extracted. This was on Friday. On Saturday night or Sunday morning, he sent for me, and this was the first time that I had seen the man professionally. I found him with some fever, the tooth was exceedingly sore, and he felt very wretched. I then put my hand on his pulse for the first time, and felt the same condition of artery which exists in the present case. Immediately, it was suggested to my mind that the man had unsuspected chronic renal degeneration, the reason for this suspicion I shall mention directly. I gave a doubtful prognosis, and asked for a specimen of urine. There was at this time apparently nothing the matter but his sore tooth. Examination of the urine showed that it was of low specific gravity and contained albumen, showing that there were contracted kidneys. On Monday he was worse, and on Tuesday he died. He died from septicæmia, resulting from the periodontitis and the small tooth abscess. That man probably had septic poisoning, in part because his system was depressed from the death of his wife, in part because his kidneys were diseased, but largely because the small vessels about the abscess were in a condition of atheroma, and were, therefore, in a state in which they more readily absorbed the inflammatory products.

There are three principal causes for atheroma occurring in middle life. The first of these, and the most frequent in its action, is the excessive use of alcohol. The second is chronic contracted kidney. The third is syphilis. I might add a fourth cause which occasionally produces atheroma, viz., chronic gout. I knew that in the case which I have just described, that there had been no syphilis and no excessive use of alcohol, and therefore my opinion, even before the urine was examined, was very decided that contracted chronic kidney was present.

In the present case, there are at least two of the common causes of atheroma, namely, the excessive use of alcohol and syphilis. The excessive use of alcohol is also very prone to produce chronic contracted kidney. The next thing, therefore, in a case like the present is the examination of the urine for evidences of chronic Bright's disease.

Within the past few years, I have learned a great deal in regard to the latent character of chronic Bright's disease. It has been a number of years since I thought that if albumen was absent from the urine, chronic disease of the kidneys could be excluded. My experience within the last year would lead me to say that in chronic contracted kidney, albumen is absent more frequently than it is present. I do not lay this down as a generalization, which holds in all cases; I simply say that in the run of cases which I have seen during the past year in private practice, albumen has been more frequently absent from the urine than it has been present, when I was certain that the patient was suffering from chronic contracted kidney.

Having progressed in my education so far as to learn that albumen was frequently absent from the urine in these cases, I believed that the condition could be diagnosticated from the specific gravity, and that the urine of a patient with chronic contracted kidney was always of low specific gravity. I think to-day that this is generally the case, and if I had to rely in making the diagnosis on the chemical tests or on the urinometer, I should accept the latter. When a patient passes urine, the quantity of which is not excessive, while the specific gravity is habitually 1010 or 1012, he is in all probability suffering from chronic contracted kidney. I of course leave out of consideration the urine which is passed by hysterical persons. I also stated, that if the urine be not passed in excessive quantity. This is an important point. In the condition known as diabetes insipidus, or polyuria, non-albuminous, non-saccharine urine of low specific gravity is habitually passed, but the daily quantity is measured by quarts.

Having progressed thus far in my knowledge of the diagnosis of this condition, I had yet to learn with considerable chagrin that chronic contracted kidney, bringing the patient even to the grave, may be present, and yet the urine be perfectly normal. I have seen two cases in which the urine had been repeatedly examined by other physicians, and in which I had myself carefully examined the urine, not only for albumen and tube-casts, but also in reference to the specific gravity, and nothing whatever indicating the presence of disease of the kidney was found. In one of these cases, my diagnosis was that the patient was suffering from gastric vertigo, and I treated her for awhile for this condition and gave some relief. She then passed from observation. I was shortly afterwards summoned hurriedly to her home where she had been under the care of another physician. She was then suffering with convulsions, which had been pronounced to be hysterical. The moment I saw the patient, I said, "These are not hysterical convulsions. The patient will be dead within thirty-six hours." I did not know what the trouble was, unless I had made the mistake of saying that there was no brain tumor, when such a growth was present. The autopsy showed that she had died of chronic contracted kidney. There had been no dropsy, no atheroma, no increase of the arterial pressure, nothing abnormal in the urine, and yet the woman died of chronic contracted kidney.

Shortly before this, I was called to one of the northern counties of this State to see a lady suffering from acute dementia. I knew that the woman was gouty, and I asked her physician if he was sure that there was no contracted kidney. He had examined the urine repeatedly and found nothing abnormal. In order to be perfectly certain, I examined it at the time. The specific gravity was above normal; there was no albumen, no tube-casts, but a considerable quantity of triple phosphates. I ruled the possibility of contracted kidney out of the question. Six or eight weeks later the woman died, and the autopsy revealed chronic contracted kidneys.

We are, therefore, brought face to face with the fact that in any obscure case, the presence of chronic Bright's disease cannot be excluded because the urine presents nothing abnormal. This is somewhat embarrassing, because in a large proportion of chronic cases the diagnosis can only be made by exclusion, and therefore if that on which we have so long relied to enable us to exclude renal disease fails us, what are we to do? I believe, however, that this condition of normal urine is not permanent in these cases, and that frequent examinations will enable us to detect enough abnormality to excite or confirm our suspicions. It should in such cases be examined for albumen after a heavy meal, especially of meat, and for specific gravity in the morning after a light supper. After a heavy meal of meat, there is an enormous strain on the kidneys. I never fully appreciated this strain until I came to measure in the dog the effect of large amounts of meat on the heat-producing function. I found that the dog when gorged with meat would produce twice its normal hour-rate of heat. In other words, a large proportion of the meat was immediately burned up and had to be eliminated by the kidneys. I have noticed in some cases that long before there was any reason for suspecting Bright's disease that occasionally, under exceptional strains, the urine would be albuminous. Under such circumstances, my opinion is that the person is in the formative stage of Bright's disease. If you find a person in whom the administration of drugs, the use of alcohol or excessive feeding causes even a temporary albuminuria, you have a patient who, unless proper treatment be instituted, is in all probability going to die of chronic Bright's disease, ten or fifteen years later. Therefore, in any doubtful case, the urine should be examined after a heavy meal for albumen especially, and in the morning, after a light supper, for specific gravity; for when albumen is presen , the specific gravity is least apt to be disturbed. To sum up, then, the presence of chronic Bright's disease is always to be suspected in patients with atheroma. The urine is next to be examined for albumen and its specific gravity noted. If albumen and an habitual low specific gravity be found, there is reason for diagnosticating chronic contracted kidney. If the urine be normal, the examination must be repeated with urine passed after a hearty meal, and in the morning after a light supper.

I shall proceed to apply these principles to the present case. I have here the urine which has been recently passed. Its specific gravity is 1013. Yesterday it was 1024, and non-albuminous. To-day the specific gravity gives reason for suspecting Bright's disease. I next test it for albumen by nitric acid, but I find no albumen. I think it probable that the man has chronic contracted kidneys. The reasons for this view are the history of the existence of the causes of this affection, the condition of the arteries, and the low specific gravity

of the urine. All these facts excite our suspicion, but do not enable us to make a positive diagnosis.

Passing by this portion of the case, we come next to inquire what was the nature of the attack which the man had two weeks ago. I examine the heart. There is no murmur, but there is that peculiar clanging, second sound, which I believe is very frequently associated with atheroma of the aortic arch, and I have no doubt that the man has an atheromatous aorta. We are, however, unable to connect this attack with a fainting fit.

The next thing to be done, is to discover, if possible, the existence of any local palsy. There is no distinct ocular paralysis, the only abnormality being excessive contraction of the right pupil. The left pupil is dilated, but this may be the dilatation of blindness. There is no paralysis of the muscle which raises the upper lid, and the pupil is not sufficiently dilated for oculo-motor paralysis. The right pupil does not respond readily to light. Applying the test of pinching the neck, some dilatation of the pupils takes place, and therefore the reflex is not abolished. There is no palsy in the hands or legs.

We find, then, to-day no evidence of any advanced brain disease; and in the absence of any account of the character of the attack, the diagnosis is uncertain. He may have had a fainting fit, or there may have been a partial loss of consciousness from thrombosis of one of the cerebral arteries, owing to its atheromatous condition; for thrombosis of a cerebral artery is almost always the result of atheroma. This man may have had a stopping up of one of the small vessels of the brain produced in this way, thus temporarily shutting off the blood supply of a small portion of the brain, and causing loss of function, which was regained when the blood found its course again by a solution of the partially coagulated fibrin.

The practical point, so far as the present aspect of the case is concerned, is that this man is suffering from a general tissue change, which is probably the result of a combination of causes. Syphilis, alcoholic excess, exposure, and probably contracted kidneys, have undoubtedly all played a part in the production of this general atheroma.

Curative treatment is, of course, not possible, but it is much to direct such a life aright. The life which this man has led, has made him old beyond his years. Atheroma is the almost normal condition of the arteries of the aged. Chronic contracted kidney, to a greater or less extent, exists in a large proportion of the aged. The treatment is that which is required in the case of old people. A little exposure or over-fatigue may cause pneumonia or general exhaustion; the abuse of alcohol, over-eating, a checking of perspiration, or exposure to cold, may lead to congestion of the brain or of the kidneys. So I might go through the whole system, showing that a little exposure or strain on any part may result in an acute disease, rapidly ending in death.

In the old, or in the prematurely old, protection is the great desideratum. Exposure, over-eating, and the excessive use of alcohol are to be avoided. There seems to be some truth in the old belief, that apoplexy is especially prone to occur in those who sleep after heavy eating. In old persons with atheromatous arteries, the afternoon nap is better dispensed with.

As far as medicines are concerned, this man needs but little. There is no use in stimulating the appetite, for the danger is in excessive feeding. If the kidneys fail in their function, or if the skin be not sufficiently active, proper functional stimulation should be employed; but the ideal treatment is carefully to run the man on a plane from which all disturbing activities are excluded.

ORIGINAL ARTICLES.

ON A NEW VARIETY OF CHRONIC NASAL CATARRH.

By HARRISON ALLEN, M.D.,
PROFESSOR OF PHYSIOLOGY IN THE UNIVERSITY OF PENNSYLVANIA.

In a small proportion of sufferers from nasal catarrh, the mucous membrane which lines the nasal chambers is thin, and exhibits scarcely any erectile power. It is abundantly supplied, however, with arterial blood, and is everywhere of a uniform light pink color. A highly polished probe placed in the nasal chamber will cause diffuse reflections to appear on the membrane. The nasal septum, as a rule, is without marked nasal deflection, but may be greatly thickened.

The membranes, especially those at the upper portions of the chambers, upon the gentlest manipulation are apt to bleed slightly; the nostrils are not infrequently excoriated, especially in winter. The discharge is mucoid in character when the disease is mildest, but easily becomes turbid upon slight vascular excitement. During the height of an acute attack (which the patient is apt to call "a fresh cold," and which in females is occasionally coincident with the menstrual period), it becomes purulent. The discharge passes into the throat as readily as from the nostrils.

The pharynx is always capacious, the muscular structures active, and the palato-pharyngeal folds well drawn out to the sides. The uvula is always small and sometimes rudimental, presenting the appearance of having been amputated. The mucous membrane is of a pale color, while the larger veins are numerous. At the sides of the pharynx below the tonsils, the peculiar pearly white color characteristic of the alveo-lingual groove, is seen. The tonsils are always small and drawn out to the sides of the pharynx; they are usually not seen, unless the palato-glossal fold at first is retracted.

The tongue is clean and the closed glands at the base are few in number, inconspicuous, and permit the longitudinal superficial veins of this portion of the tongue's surface to be unusually well seen. The veins of the mucous membrane of the cheek, which lie on the space between the orifice of the duct of Steno and the reflection from the mucous membrane from the cheek to the alveolar process, are large, superficial, and coarsely reticulated.[1]

The pale color of the anterior surface of the soft palate extends forward, and is continuous with that of the hard palate without any change. The hard

[1] The buccal veins here described have been neglected by anatomists and clinicians. They are of importance in studying conditions of vascularity in the mouth, nose, and throat.

palate itself is exceptionally pale, and the positions of the palatine veins may be determined by bluish streaks on the membrane

The posterior or palatal portion of the hard palate in the median line is almost invariably marked by a sessile exostosis, ordinarily two-thirds of an inch in length and one-third of an inch in breadth, although sometimes larger. Extending from the anterior border of this exostosis to the position of the rugæ, is a pronounced median ridge, sometimes the seat of a second exostosis, which is marked in the centre by a minute lineal groove. In two cases which I have seen, the palate was highly arched, and a large congenital opening existed in the anterior portion of the nasal septum.

The subjects of this form of catarrh, as far as I have observed, very commonly have fair skins, are of spare habit, with a tendency to gray or blue eyes, and light-brown hair. The general circulation is never good; the hands and feet are apt to be cold. There is, very generally, a history of tuberculosis, either in the immediate family, or in the families of the parents, although I have never seen the disease coexist with phthisis.

In examining a case of catarrh of this variety, which had never been subjected to local treatment, the under surface of the narrow middle turbinated bone is often found covered with a thin layer of fibrinous exudation; but in all cases, whether this be present or not, firm pressure of the probe against the ledge-like surface will cause the spot which is pressed upon to become instantly of a bright red color. This is a characteristic sign, and a most valuable one in determining the presence of the condition described. In attempting to make an examination of the posterior nares, it is often found that, in spite of the liberal diameters of the pharynx, it is very difficult to obtain a view. The difficulty arises from the fact that the powerful levator-palati muscles pull up the soft palate, and persistently narrow or entirely close the opening of communication between the naso-pharynx and the oro-pharynx.

This form of catarrh may be easily distinguished from that of any other variety; for, so far as I know, the group of signs and symptoms above given under no other circumstances coexist. In catarrhs accompanied with inflammatory extravasations or œdema, the pharynx is of a dusky-red color, and the anterior border of the reddened soft palate is sharply limited from the paler hard palate.

The exceedingly sensitive character of the nasal mucous membrane, and its disposition to slight bleeding from trifling causes, the absence of the erectile tissue, or its rudimental character when present, a nearly straight septum (hence the absence of nasal obstruction),[1] form a group of characters which may be easily recognized.

This form of the disease is not common. I have had the opportunity of carefully studying twenty cases.

The prognosis for cure is unfavorable. In seventeen cases, very marked alleviation followed treatment, while in three no benefit followed the most carefully devised and systematic treatment. I have reason to believe that in these three cases, the failure could be largely attributed to hereditary peculiarities, the results of tubercular history. In one case three grandparents and a maternal aunt had died of consumption. In another, all members of the family had had "weak throats," a maternal aunt and uncle, and a paternal aunt dying of phthisis. The third case was complicated with neurasthenia. The remaining cases were greatly benefited by applications of a saturated solution of nitrate of silver over the more hyperæmic portions of the mucous membrane. This agent, when used with care on a surface not larger than a duck-shot, at a single sitting, is readily borne, and is often followed by the most satisfactory results. I am in the habit of first covering the middle surface of the turbinated bone with these applications, and repeating them every other day. The galvano-cautery under no circumstances is to be used. It is in this class of catarrhal cases that I have found the oleo-resin of cubebs of advantage; indeed, in my experience it is the only form of catarrh in which that preparation is of any use. The agent can be lightly painted along the sides of the chamber, care being taken that it does not trickle into the pharynx. Minute doses of arsenious acid in conjunction with cod-liver oil and oleo-resin of cubebs, are well borne, particularly in the winter months

This form of catarrh is closely allied to ozæna. I remain under the impression that the distinction between the disease and ozæna, remains one of grade rather than one of distinction in kind. While I have never seen ozæna associated with the disease, the characters of ozæna appear to be a high grade of inflammatory state, associated with a disposition to fibrinous exudation, engrafted upon the general features of the phase of nasal and pharyngeal distress as here described.

[1] A sense of obstruction is sometimes referred to the plane of the middle turbinated bones, or obstruction to breathing may be reported as occurring during the night, especially during sleep. In the main, the statement is correct that the turgescence of the mucous membrane is insufficient to close the nose.

DISINFECTANTS.

PRELIMINARY REPORTS OF THE COMMITTEE ON DISINFECTANTS OF THE AMERICAN PUBLIC HEALTH ASSOCIATION.

II.

COMMERCIAL DISINFECTANTS.

BY GEORGE M. STERNBERG, M.D.,
SURGEON U. S. A.

In conducting the experimental investigations of the Committee on Disinfectants, the writer determined at the outset, in the interest of health officials and of the public, to ascertain the comparative value of the various commercial disinfectants in the market. In a recent paper by Wynter Blythe, Medical Officer of Health for Marylebone, in which the commercial disinfectants, exhibited at the London Health Exhibition, are intelligently discussed, we find the following:

"Rampant rides the quack in the fields, both of preventive and remedial art. Quackery takes a well-

known common powder, labels it with a grand mystic name, selling bright copper at the price of gold. Quackery finds a stink outstinking feebler stinks, and gives it forth as a disinfectant. Of all the substances gathered together under the name of disinfectants—solids, vapors, gases, and odors—a small percentage alone possess any value."[1]

This statement applies as well to many of the articles advertised as "disinfectants" in this country. But in justice to the manufacturers of these so-called disinfectants, we must say that many of them which are of no use in the sense in which we use the term are valuable as antiseptics, or as deodorizers, and that there is good authority for calling a substance which will prevent putrefactive decomposition, or which will destroy bad odors, a disinfectant. Many chemists and physicians use the word in this sense, and this is the popular acceptation of the term both in this country and in Europe. We, therefore, cannot find fault with those manufacturers who see fit to use the word as synonymous with deodorizer or antiseptic, but we must caution the public that a disinfectant from this point of view does not necessarily destroy infectious material; and that the word is used by this Committee in accordance with the definition given by Dr. Rohé in the preceding paper.

It has been proved that certain kinds of infectious material owe their infecting power to living microorganisms, which in a general way are often spoken of as "germs." A disinfectant, therefore, which destroys this kind of infectious material may be called a *germicide*. If all infectious material owes its specific infecting power to the presence of living organisms, then, from our point of view, disinfectant and germicide are synonymous terms. But in the absence of satisfactory proof that such is the fact, we must consider the former term one of general application, while the latter is only applicable in those cases in which the infecting agent has been proved to be a germ. But in our tests of disinfectants we are obliged, for the most part, to depend upon experiments which determine germicide power and in the experiments reported below, only biological tests have been used. As a matter of fact, those agents which by laboratory experiments have been proved to be the most potent germicides, have by the experience of sanitarians, by tests upon vaccine virus, septicæmic blood, etc., been shown to be the most reliable disinfectants.

Evidently there can be no partial disinfection; either the infecting power of the material to be disinfected is destroyed, or it is not. Where the object is to destroy disease germs in the sputum of patients with diphtheria, in the discharges of patients with typhoid fever, etc., so that no development shall occur when these germs find a proper nidus, incomplete destruction will be a waste of ammunition, for so rapid is the multiplication of these low organisms that the question of numbers is of secondary importance. It is therefore essential, in an experimental inquiry of this kind, that the most rigid tests may be applied, and that we keep on the safe side in the practical application of those agents which withstand these tests.

[1] Med. Times and Gaz., London, Oct. 11, 1884.

In our experiments below reported, the material which has served to test the germicide power of the agents named is "broken-down" beef-tea, exposed in the laboratory for several days, and containing a variety of putrefactive bacteria and their spores. The spores of *Bacillus subtilis* are also invariably present in this stock, and when a certain agent is successful in destroying all other microörganisms, we frequently have in our culture-solutions a pure culture of this bacillus, which is noted for its abundant and wide distribution, and for the great resisting power of its spores. In order to meet the objection of those who are likely to cavil because no "disease germs" are present in the material mentioned, a culture of *Bacillus anthracis* containing spores is added to this stock solution. It is well known that anthrax spores constitute one of the most difficult tests of germicide power; not more difficult, however, than the spores of *B. subtilis*. We may safely assume, then, that an agent which will destroy these spores will also destroy all known disease germs, and probably all organisms of this class, known or unknown. The micrococci and bacilli not containing spores are far more easily destroyed.

The time of exposure to the disinfecting agent in all of these experiments has been two hours. And the amount of material to be disinfected has in every case been made equal to the amount of the solution of the disinfecting agent under trial. Thus to test an agent in the proportion of fifty per cent., a certain quantity—10 cc.—of the agent undiluted (100 per cent.) is added to an equal quantity of the broken-down beef stock described. If we wish to test the agent in the proportion of four per cent., an eight per cent. solution is made, and this is added to an equal quantity of the stock, etc. The mixture is placed in a wide-mouthed bottle containing 25 cc. and is set aside for two hours. A minute quantity of the material is then introduced into two little culture-flasks[1] (all experiments are made in duplicate) containing sterilized beef-tea, and these are placed in the oven, which is kept constantly at a temperature of 36° to 38° C. (96.8° to 100.4° F.). My method has been explained in detail in a paper relating to an extended series of experiments of a similar nature, published in the *American Journal of the Medical Sciences* for April, 1883.

These experiments on commercial disinfectants have been very carefully made, under my direction, by Dr. Duggan. The samples were, for the most part, obtained for me by Dr. Raymond, Health Commissioner of Brooklyn, in the cities of New York and Brooklyn. As the experiments are made in the interests of the public, special pains have been taken to secure samples such as are placed in the market, and the rule was adopted at the outset not to test samples sent to us by the manufacturers, but to purchase ourselves such packages as are offered for sale by druggists and other dealers.

Numerous experiments were made, but only those are recorded here which fix the limits between suc-

[1] The flasks used are all made in the laboratory, and are of the form described in the chapter on Technology in my book—*Bacteria*.

cess and failure. In four instances, a failure occurred in the proportion of 50 per cent., *i. e.*, when the undiluted solution was added to an equal quantity of the test-material. These agents were at once dropped without further trial. In the table, the agents are arranged with reference to their relative efficiency.

List of Commercial Disinfectants Tested.

Name upon Label.	Per cent. in which active.	Per cent. in which failed.
Little's Soluble Phenyle (Morris, Little & Co., Brooklyn),	2	1
Labarraque's Solution (*Liq. sodæ chlorinatæ*); name of manufacturer not given.	7	5
Liquor Zinci Chloridi (Squibb's),	10	7
Feuchtwagner's Disinfectant (L. Feuchtwagner & Co., New York),	10	8
Labarraque's Solution (from Freré, Paris),	15	10
Phenol Sodique (Hance Bros. & White, Philadelphia),	15	10
Platt's Chlorides (Henry B. Platt, New York),	20	15
Girondin Disinfectant (James Meyer, Jr., New York),	25	15
Williamson's Sanitary Fluid (D. D. Williamson, New York),	25	20
Bromo-chloralum (Bromo-chemical Co., New York),	25	20
Blackman Disinfectant (Blackman Disinfectant Co., New York),	30	20
Squibb's Solution of Impure Carbolic Acid (about two per cent.),		50
Burchardt's Disinfectant (J. H. Harty & Co., New York),		50
Phenol Sodique (7 Rue Coq. Héron, Paris),		50
Listerine (Lambert & Co., St. Louis),		50

I append to this list the report made by Wynter Blythe (loc. cit.) upon certain commercial disinfectants exhibited at the London Health Exhibition:

"*Various tar-acid disinfectants.*—Jeyes's perfect purifier, the concentrated carbolated creasote of Messrs. D. & W. Gibb, the kresylene described by Messrs. Mackay & Co. as a preparation of coal-tar creasote, pixene, and the thymo-cresol exhibited by Messrs. Ness & Co., have all the property of emulsifying with water. Jeyes's purifier was for some time tried in St. Marylebone urinals and drains, but the deposit left on the surface with which it had been in contact was found difficult to cleanse and inconvenient. I have made some experiments on anthrax in the spore state with the 'perfect purifier.' The solutions used were five to ten per cent.; the 'fluff' had to be freed from the tenacious fawn-colored deposit by alcohol. The result was very similar to what might have been predicted from results of experiments on the pure tar-acids, viz., growth was a little delayed, but never destroyed."

"Mr. James Wheeler's pixene I was on the whole favorably impressed with. He claims to have condensed the whole of the volatile constituents of pure tar, and to have presented them in a form readily miscible with water. . . . Anthrax spores soaked in a ten per cent. solution did not grow for some time."

"*Carbolic acid powders.*—I have experimented on anthrax with Calvert's, Jeyes's, and McDougall's powders; but even when a paste was made with the several powders, and the infected "fluff" allowed to remain therein twenty-four hours, no sterilization resulted."

Similar powders were obtained by our Committee in New York and Brooklyn, but I have not thought it worth while to make any experiments with them, as sawdust, or other material, saturated with impure carbolic acid, or with the volatile constituents of tar, can have no great value, in view of the low disinfecting power of these agents minus the sawdust. An agent which has gained considerable reputation in England is referred to as follows by Blythe:

"*Sanitas.*—Of all the substances introduced under the name of disinfectant, this is the most pleasant. Sanitas is chiefly in the form of sanitas oil and sanitas fluid; peroxide of hydrogen, thymol, camphoric acid, and terebene enter into their composition. Of the numerous sanitas preparations, liquid and solid, the oil seems to be the most active. Nothing replaces or destroys so rapidly the unpleasant odor which tenaciously adheres to hands contaminated by offensive animal matters. It is also to be commended for use in stables, and as a corrective for dung-heaps, and of the sickly smell at times rising from the Metropolitan wood pavement. I made many experiments with sanitas on anthrax. Spores soaked in sanitas fluid for twenty-four hours grew afterwards very freely. Spores placed in the undiluted emulsion, and afterwards removed, seemed at first to have their growth delayed, but in forty-eight hours growth commenced, and ultimately became luxuriant. The oil itself gave similar results. Sanitas powder was also tried, but with no better success."

Returning to the disinfectants in our list, it will be seen that all but the four last-named are efficient in various amounts, ranging from 30 to 2 per cent. But the relative value of the agents as here given does not establish their comparative practical value as disinfectants. Questions of cost, physical and chemical properties, etc., come into the account which it is the province of other members of our Committee to consider. The agent at the head of the list, for example, notwithstanding its superior germicide power, does not seem to me to be as useful as some of those below it, on account of its insolubility and comparatively high price.

We have nothing to say against the use of any of the agents in our list as antiseptics or as deodorizers. No doubt all of them are more or less useful for this purpose, and we have no desire to restrict their use.

But the exaggerated claims made in relation to the germicide, or disinfectant power of certain of these agents, may do immense harm. Thus, one agent advertised as a "germicide" *par excellence*, "Pasteur's marvellous disinfectant," failed *after two hours' exposure* to kill the organisms in our test-solution in the proportion of twenty per cent. Yet this fluid is, by some contrivance, to be thrown into the water-closet of every germ-fearing citizen when he pulls the handle, so that it may catch the germs on the fly and extinguish their power for mischief before they reach the sewers. On the whole, the proprietary disinfectants have turned out better than I anticipated, and any one of the eleven first-named may be used in conformity with the conditions imposed by the experimental test for disinfecting sputum or excreta. For fecal matter, however, it will be best to employ an agent which is successful in the proportion of ten per cent., for example, in at least twice this strength, and in quantity considerably in excess of the material to be disinfected. It must be remembered that in our experiments the germs are suspended in a fluid and this is thoroughly mixed with the disinfectant.

The second agent in our list is the well-known *liquor sodæ chlorinatæ*.

Our experiments lead me to think that this time-honored disinfectant is worthy of more attention than it receives to-day, when so many other agents of inferior value are being pushed by enterprising manufacturers. Our two samples differ greatly in their disinfecting power, which depends upon the amount of sodium hypochlorite present. Dr. Duggan has prepared, and experimented with, a solution containing six per cent. of available chlorine, which proves to be efficient in the proportion of one per cent. I am informed that a solution containing two per cent. of available chlorine could be put in the market for less than forty cents per gallon. Whether this is to be the disinfectant with which we shall fight cholera, must be determined by my colleagues who take up the question from a practical standpoint. But whatever agents are determined to be the best, must be so cheap that they may be obtained by the gallon and used without stint. The time has passed when *pater familias* can complacently congratulate himself upon having disinfected his house with a bottle of carbolic acid which he has brought in his vest-pocket from the corner drug-store.

In view of the efficiency and cheapness of the hypochlorites, I have requested Dr. Duggan to give special attention to these agents, and to prepare a report embodying the results of his biological tests, and such information relating to the *modus operandi*, chemical characters, and available tests of strength, as may be useful to health officers and to the public.

REPORT ON THE GERMICIDE POWER OF THE HYPOCHLORITES.

BY J. R. DUGGAN, M.D., PH.D.,
FELLOW BY COURTESY IN THE JOHNS HOPKINS UNIVERSITY.

IN my previous work on commercial disinfectants, I found that the specimens of Labarraque's solution of sodium hypochlorite, although containing only a small quantity of this salt, were among the most effective in their action. On looking over the literature of the subject, I found that although this solution and that of the corresponding calcium salt (chloride of lime) were among the first used disinfectants, very little had been done to fix accurately their value. In order to determine this, I prepared standard solutions of sodium and calcium hypochlorites for use in the following experiments. The available chlorine, that is, the chlorine which enters into the constitution of the hypochlorites, was determined in these solutions by its oxidizing action on a standard solution of arsenious acid; papers saturated with starch paste and potassium iodide being used to show an excess of the hypochlorite. The well-known method of Dr. Sternberg was used throughout the investigation to determine germicidal value. The following solutions were prepared:

Solution A: Sodium hypochlorite made by passing chlorine gas into a solution of sodium hydroxide. Available chlorine = 6 per cent.

Solution B: Calcium hypochlorite made by passing chlorine gas into milk of lime. Available chlorine = 6 per cent.

Solution C: Calcium hypochlorite made by dissolving 100 grammes of bleaching powder (chloride of lime) in 1 litre of water, and filtering. Available chlorine = 2.4 per cent.

Solution D: Potassium hypochlorite made by passing chlorine gas into a solution of potassium hydroxide, and diluting until the available chlorine = 1 per cent.

The action of Solution A on spores of *Bacillus anthracis* was tried with the following result: 2 per cent. was effective in 30 minutes, 1 hour, and 2 hours; 1 per cent. failed in 1 hour, effective in 2 hours.

Solution B in 2 per cent. gave similar results. In 1 per cent. it was effective in both 1 and 2 hours.

Solutions A and B were both found to be effective in 5 per cent. and 1 minute's time on the organisms of broken-down beef-tea. One-half per cent. of these solutions failed to destroy in 2 hours organisms in broken-down beef-tea, but 1 per cent. of Solution A was effective in the same time. One of the bulbs from a 1 per cent. solution of Solution B broke down, but the other remained clear. These solutions were also tried in 2 and 3 per cent. for 2 hours and found effective.

Solution C was effective in 3 per cent., but failed in 1 and 2 per cent. in 2 hours.

Solution D was effective in 7 per cent., but failed in 5 and 6 per cent. in 2 hours.

In addition to these, we may mention a dilute solution of bleaching powder of unknown manufacture. This contained 0.4 per cent. available chlorine, and was effective in 15 per cent., failed in 10 per cent.; time, 2 hours. The commercial specimens of Labarraque's solution, reported among the commercial disinfectants, showed about the same value in proportion to the available chlorine they contained. These latter experiments were all made on broken-down beef-tea. That this contained spores as well as organisms, was shown by the fact that tubes inoculated from the solution while boiling developed various bacilli. Of course, spores must have been present to resist this temperature.

While it has been thought well to use a pathogenic organism in some of these experiments, I am convinced, from recent work on the subject, that any agent that will destroy *Bacillus subtilis* will also destroy *B. anthracis*, and probably any other pathogenic organism.

The foregoing experiments show that a solution containing 0.25 of 1 per cent. (1 part to 400) of chlorine as hypochlorite is an effective germicide even when allowed to act for only one or two minutes, while 0.06 of 1 per cent. (6 parts to 10,000) will kill spores of *B. anthracis* and *B. subtilis* in 2 hours. A simple calculation will show that all the solutions used were effective when diluted to about this strength, and failed a little below it. No better evidence could be had of the reliability of the excellent method of Dr. Sternberg for testing agents of this kind. These experiments were all made in duplicate, and they show a concordance which I am satisfied can be obtained by no other method with which I am acquainted.

The value of the various commercial preparations, such as Labarraque's solution and bleaching powder (chloride of lime), of course depends on the amount

of available chlorine they contain, since the chlorides and chlorates are of very little value as disinfectants. Bleaching powder usually contains from twenty-five to forty per cent. of available chlorine. For most purposes, a solution containing 1 part of this preparation to 100 of water is strong enough, for this will contain from 0.25 to 0.40 of one per cent. of chlorine as hypochlorite. As is stated above, the smaller of these quantities is sufficient to destroy spores almost instantly. There are very few purposes to which disinfectants are applied that are not fulfilled by this solution of 1 to 100 of bleaching powder. It is not poisonous, does not injure clothing, bedding, etc., and is almost without cost, since bleaching powder is worth only about five cents per pound. The sodium salt furnishes in some respects a more elegant preparation, since it leaves on evaporation sodium chloride instead of the hygroscopic calcium chloride. If prepared according to the U. S. P., it does not keep very well, but when made by passing chlorine gas into a solution of an excess of caustic soda, it shows very little tendency to undergo decomposition. Solution A, although rather concentrated, and frequently exposed to the light and air, has kept for a month without any appreciable change. A solution like this might be put on the market at a very reasonable price, and as it should be diluted with twenty parts of water, it would be far cheaper and more effective than any of the proprietary disinfectants. The odor of the hypochlorites is a slight objection to their use, but in dilute solution this is scarcely disagreeable. Where the odor is not to be regarded, the hypochlorous acid may be liberated by the addition of any common acid, thus increasing the oxidizing power, and liberating a most effective gaseous disinfectant. I hope to make further experiments on this point at an early day.

To fix the value of solutions of the hypochlorites, the following method is sufficiently accurate for ordinary purposes. A standard solution of potassium arsenite may be made by diluting seven parts of Fowler's solution with one and a half parts of water. This corresponds to a one-half per cent. solution of available chlorine. To apply the method, a given volume of the hypochlorite solution is measured out, and the arsenite solution added in small quantities. Between each addition the mixture is well stirred, and a drop taken out on a glass rod and tested on a strip of paper saturated with iodide of potassium and starch paste and dried. As long as any hypochlorite is present, the blue iodide of starch is formed; but when it has all been used up in converting the arsenite into an arseniate, the paper will remain colorless. As each volume of the potassium arsenite solution required for this corresponds to one-half per cent. of available chlorine, the calculation is very simple, *e. g.*, if one volume of the hypochlorite solution = 4.6 volumes of the arsenite solution, the amount of available chlorine present would correspond to 2.3 per cent. Since the preparations now on the market vary so much in the amount of chlorine they contain, this test should always be used to determine their value, and the amount of dilution required. Where the disinfectant is further diluted in use by being added to liquids or semi-solids, the original dilution should not be so great.

The hypochlorites possess the advantage over many of the metallic salts of not forming a coating of insoluble albuminoid matter around solid or semi-solid masses, and thus protecting them from further action. On the contrary, when used in moderately strong solution, they oxidize and disintegrate these materials. They are at the same time destroyed themselves in the reaction, so that we are rid of germs, organic matter, and disinfectant all at the same time.

Johns Hopkins University, Baltimore,
January 19, 1885.

ABSORBENT COTTON AS AN ELECTRODE COVERING—A SUGGESTION IN ELECTRO-THERAPEUTICS.

By G. BETTON MASSEY, M.D.,
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To practical workers in medical electricity the covering of the metal electrodes used to convey currents to subdermal tissues is a matter of more than apparent importance. The object of this covering is the maintenance of water, or a saline solution, in a position to conduct the current painlessly from the metal surface through the epidermis (which is a very poor conductor in a dry condition) to the moister tissues below. This covering should be thin, yet retentive of a sufficient supply of liquid. It should be soft, cheap, and readily cleansed or renewed. Sponge has been the favorite of late, owing to the superior softness and water-absorbing power possessed by it in contrast with wash-leather or muslin. It has the disadvantage, however, of excessive humidity — often drenching contiguous clothing; added thickness, leading to increased resistance and alterations of resistance while *in situ*, when the pressure is slightly changed; irregularity of surface, causing pain at first instant of contact, and a subsequent unequal distribution of current through the area covered by the electrode. In addition, these sponges, unless frequently removed, cleansed, and carefully re-sewn, soon become unfit for use from an accumulation of verdigris, saline deposits, epidermic scales, and sebaceous matter. Their instrumentality in the transference of disease from patient to patient can readily be conceived, and, unfortunately, instances of this unpardonable accident are on record.

With these disadvantages in mind, the substitution of absorbent cotton as a covering recently occurred to me. A trial demonstrated its value, and I immediately removed the sponges from the greater number of my electrodes. It is applied to the brass disk in a few seconds, after the manner of gynecologists when covering their uterine applicators: a pinch of sufficient size, and with the proper smoothness of fibre, is laid on the face of the disk and the edges pressed over and twisted around the shank by a twirling motion of the electrode. In a moment it is ready for use; and the covering may be rejected immediately after the application. But little practice is required to learn how much cotton to use, and to obtain a smooth covering on any but the very

largest disks. The many advantages of this material for this purpose are too apparent to require mention, not the least being its preëminent smoothness, softness, and neatness.

1502 Arch St.

MEDICAL PROGRESS.

A New and Certain Diagnostic Sign of Pregnancy in the First Month.—Reinl, in the *Prager med. Wochenschrift*, No. 26, 1884, claims the following to be a certain indication of existing pregnancy, as early as the first month. A condition of unusual softness, elasticity, and thinness of the lower uterine segment—that is, the segment immediately above the insertion of the sacro-uterine ligament. The cause of this condition is explained by the fact that the lower uterine segment, as the thinnest part of the whole organ throughout pregnancy, must be exceedingly thin, succulent, and elastic.

Absence of this condition does not, however, contraindicate the existence of pregnancy.—*Centralblatt für Gynäkologie*, December 27, 1884.

Extirpation of a Laryngeal Polypus after Local Anæsthesia by Cocaine.—Dr. S. Meyerson, of Warsaw, publishes in the *Wiener med. Presse*, Dec. 28, 1884, an interesting case of the removal of a laryngeal polypus after the local application of cocaine, which still further confirms the value of this drug in all operations connected with mucous membranes.

The patient, a man forty years of age, had suffered for five years from hoarseness. For a short time previous the hoarseness had increased, and when he was first seen by Dr. Meyerson, he was entirely voiceless. Examination revealed the presence of a granular pharyngitis. The uvula was much thickened and lengthened. The laryngoscopic examination was very painful. In the larynx under the edge of the right vocal cord, about one-twelfth of an inch from its anterior extremity, was present a pear-shaped polypus about two-fifths of an inch long, attached by a slender pedicle. It changed its position, both in inspiration and expiration. During inspiration, the polypus was drawn beneath the vocal cords into the larynx; and in expiration, it was drawn outside the larynx, and, resting upon the vocal cords, covered them to an extent of two-thirds their length. During phonation, the polypus was held between the vocal bands and was pressed upon by them, their edges being separated about one-twelfth of an inch. The introduction of the instruments into the larynx excited considerable reflex spasm, and a sixteen per cent. solution of cocaine was applied to the uvula, soft palate, pharynx, base of the tongue, and larynx. Within two minutes the polypus was extracted without reflex spasm, and the patient's voice was restored; he was, however, somewhat hoarse, owing to the thickening of the right vocal cord.

Perineal Calculus.—Dr. Sarget, in the *Union de les Ciencias Médical* et *El Siglo Médico* of Nov. 1884, reports an interesting case of perineal calculus in a laborer who for two years had had a swelling in the perineal region, which caused great inconvenience in urination. The patient was a man of fifty years, had fever with nocturnal exacerbations; the tongue was dry and furred; there were anorexia, polydipsia, almost continual suborbital headache, and sleep was incessantly disturbed by frightful nightmares. Various physicians had examined the growth, some pronouncing it to be a malignant tumor of the prostate, and others an inflammation. Examination revealed an induration extending from the root of the scrotum to the sphincter ani of a nearly cartilaginous consistency, contact with which, however light, caused extreme pain. Urination was extremely painful and accomplished drop by drop. The patient would not permit the introduction of a bougie; accordingly treatment was only tentative, rectal examination having only been made and no definite conclusion reached. Bromide and belladonna were given internally and an emollient ointment externally. Under this treatment the tumor diminished somewhat, and it was continued six days. At the end of this time the patient returned, complaining of insupportable pain. Application of a strongly iodized ointment increased the pain, and was discontinued. Examination now showed a point of fluctuation, and puncture permitted the escape of great quantities of pus, and on introducing the finger a foreign body was felt at considerable depth in the tissues. It was rough, hard, and could not be moved. The day following, the incision was enlarged, and the body removed in three pieces. The wound cicatrized slowly, but both the fever and difficulty of micturition at once disappeared, and there was great improvement in health.

The patient gave a history of having received a long time previously a contusion of the perineum, following which there was retention of urine for thirty-six hours and great pain for fifteen hours. The pain had gradually disappeared, but some difficulty in urination had ever since persisted. These facts make it probable that there had been infiltration of urine and a consequent precipitation of urinary salts, to which the calculus was due. Examination of the calculus, which was of the size of a very large kidney bean, showed it to consist of the phosphate and carbonate of lime and some organic matter, no trace of the urate of lime being present.—*Gazette Hebdomadaire des Sci. Méd. de Montpellier*, Jan. 3, 1885.

Anuria and its Treatment.—Dr. Mandrillon, in the *Journal de Médecine de Bordeaux*, after discussing anuria in its various phases, reaches the following practical conclusions:

1. Anuria is only a symptom, having for its causes (apart from a nervous or hysterical origin) a simple mechanical or organic obliteration of the ureters, or some disease of the kidneys.

2. Anuria is serious only on account of the uræmia which it causes.

3. Its gravity is in proportion to the lesions produced: fatal, if they are permanent; curable, if they are transient.

4. Anuria which is cured is immediately followed by abundant diuresis of short duration.

The first indication is to bring on urination, and to prevent the accumulation in the blood of waste products; the second is to combat the effects of uræmia. To fulfil the first, the patient should at once be put on an exclusively milk diet. Milk has no diuretic proper-

ties, but taken in large quantities, it raises the pressure in the bloodvessels, and thus favors diuresis, and also reduces to a minimum the production of uræmic products.

Certain drugs, such as digitalis, opium and its alkaloids, and squills, should be prescribed with great caution, inasmuch as they are excreted by the kidneys, and retained, may produce toxic effects.

Chloral hydrate, of all the hypnotics, should be preferred, since it is eliminated in great part by the pulmonary mucous membrane. Alcoholic and diffusible stimulants, and, above all, caffeine are indicated in certain cases to raise without danger the arterial tension.

To combat the accidents of uræmia, two indications present themselves:

1. To prevent as much as possible the formation of urea and uric acid.

2. To expel from the system these poisonous products.

To this end the hot bath is prescribed, and highly recommended as giving excellent results. This should be supplemented by drastic purgatives and emetics as additional means of removing the retained waste products, which, if allowed to remain, cause uræmia.—*Revue Médical*, Jan. 2, 1885.

PEROSMIC ACID IN PERIPHERAL NEURALGIA.—NEUBER has lately called attention to the value of perosmic acid in peripheral neuralgia. The remedy seems also worthy of trial in sciatica, as is shown by its use in numerous cases treated by DR. ANTON WÖLFLER. The first case cited is that of a man who for three years had suffered from sciatica, the affection finally becoming so painful as to prevent all labor.

Oct. 9: an injection of one-half a Pravaz syringeful of a one per cent. solution was first administered, between the trochanter and the tuber ischii. A whole syringeful was afterwards employed.

Oct. 10: two injections were administered. At first severe pain was felt in the region of the peroneal nerve, but soon the neighboring parts were entirely devoid of sensation, the whole leg feeling "as if it were wood."

Oct. 12: third injection. The neuralgia has lost its intensity. The patient himself designated the point for the injection. During the injection severe pain was experienced in the region supplied by the peroneal nerve.

Oct. 13: The pains were comparatively unimportant, however not entirely abolished. The toes were slightly movable. Pain in the region of the peroneus muscles, and injection was made there.

Oct. 14: All pain has markedly abated. In the leg none at all was felt. Injections were nevertheless made on the 16th, 22d, 23d, 26th of October. On the last day, the patient declared himself free from pain, and that he needed no more injections. Four months later, the patient ceased to be under observation. The pains at this time had not returned, and the man was able to go long distances on foot without inconvenience or pain. In other cases, the use of the acid hypodermically was followed by like favorable results. As to its beneficial effect in trigeminal neuralgia, nothing as yet can be said. The cases in which it has been applied are not sufficiently numerous and the time of observation too short.

The assertion that the hypodermic injection of perosmic acid is painless is incorrect. Every patient in whom it was used complained of pain, which lasted at least from one to two minutes. It is further of interest that several of the patients designated the direction of the pain, which corresponded to the course of the nerve and its branches, and that the first sign of improvement was that they no longer could distinguish whence their former pain started or to what region it extended.

Although the value of the acid for peripheral neuralgia is not certainly established, the means for successfully treating this affection are so meagre and unsatisfactory that it is certainly worthy of further trial, even if it is not found to give relief in every case. It seems that it is more beneficial in some localities than in others, for instance, in the sciatic than in the trigeminal regions.—*Wien. med. Wochenschr.*, Dec. 14, 1884.

A HERMAPHRODITE.—M. GÉRIN-ROSE, at a recent meeting of the Société Médicale des Hôpitaux, presented a cast of the genital organs of a hermaphrodite (*sans exces masculin*). Classification of Geoffroy Saint-Hilaire.

Julie D., aged 26, entered the hospital ill with typhoid fever. She had the features and appearance of a woman, voice, breasts, etc. The labia majora and minora were normal, but the clitoris was of the form and size of a small penis. Examination showed a glans penis, prepuce, and corpora cavernosa. The glans was imperforate. The meatus urinarius was beneath the penis. There were no traces of a hymen nor of carunculæ myrtiformes. She was not a virgin, as her history affirms. A vaginal orifice opened directly from the vulva without an intermediary diaphragm. There was a cul-de-sac at the extremity of the vagina, but no uterus. The woman had never had menstrual periods nor uterine congestion. There were present two ovoid bodies in the labia majora resembling testicles. The probable absence of ovaries and the presence of testicles is a proof that Julie was a man, although she presented the external characteristics of a woman. She, however, cared nothing for men. The "vagina" only, was sensitive. Friction of the penis (or clitoris), though causing erection, produced no other effect.—*Archives de Tocologie*, Jan. 1885.

DISLOCATION OF THE HIP; SUCCESSFUL REDUCTION AFTER TWELVE WEEKS.—Drs. J. H. and L. T. Hall, of Potosi, Mo., report a case of successful reduction of a dislocated hip twelve weeks after injury. The patient, a little girl, fell from a tree and dislocated the hip. The luxation was promptly reduced under chloroform, but spontaneous dislocation seems to have at once occurred. Twelve weeks after the injury the Drs. Hall were called to see the patient, and having etherized her again reduced the luxation which was backward, the head of the femur resting on the dorsum of the ilium. Extension was applied, and four weeks later the child was able to use the leg freely. Considering the length of time intervening between luxation and its reduction, the case is unusual.—*St. Louis Courier of Medicine*, January, 1885.

THE MEDICAL NEWS.

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SATURDAY, FEBRUARY 7, 1885.

INTUSSUSCEPTION AND ITS TREATMENT.

OF the affections of the intestines, there is not one of more importance than obstruction. From whatever cause it may arise, the symptoms are usually severe, the mortality is exceedingly high, and the treatment has, up to the present, been by no means satisfactory. Hence it is that we welcome with no little pleasure the interesting and instructive lectures on "Acute Intestinal Strangulation and Chronic Intestinal Obstruction," delivered by MR. BRYANT before the Harveian Society of London, and published in the *British Medical Journal* for November 22 and 29 and December 13, 1884, and the recent paper on the "Treatment of Intussusception," read by MR. TREVES before the Medical Society of London, and published in the same periodical for January 3, 1885. As the entire subject of obstruction of the intestines is too comprehensive for discussion in these columns, we shall confine our remarks to intussusception, which is one of its most common causes.

Mr. Treves divides intussusception into four kinds, namely, enteric, colic, ileocæcal, and ileocolic. In the enteric variety, which constitutes 30 per cent. of the entire number, the small intestine, and usually the lower part of the jejunum, is alone involved, and the resulting tumor is small. In the colic, which forms 18 per cent. of the whole, the colon is alone implicated, and usually that part to the left of the transverse colon. In the ileocæcal, which comprises 44 per cent. of all cases, the ileum is invaginated into the cæcum; while in the ileocolic, which forms 8 per cent., the ileum is prolapsed through the ileocæcal valve, and the cæcum is invaginated into the colon. The colic variety is, as a rule, chronic, and the other varieties pursue an acute or subacute course.

From a clinical standpoint, Mr. Treves separates intussusception into four classes: First, the ultra-acute, in which death follows within twenty-four hours; secondly, the acute, lasting from two to seven days; thirdly, the subacute, which terminates fatally between seven and thirty days; and, fourthly, the chronic, in which the period is extended beyond thirty days. The ultraäcute is very rare. Of the remaining clinical varieties, out of every 100 cases, 48 will be acute, 34 subacute, and 18 chronic. The acute varieties are most common in children, while chronic cases are most frequent between the ages of twenty and forty.

In the treatment of intussusception, the question of spontaneous recovery after sloughing of the invaginated gut has had an important influence upon the conduct of not a few surgeons, who have permitted nature to pursue an unaided course in preference to resorting to laparotomy. Spontaneous elimination of the gangrenous intestine occurs in about 42 per cent. of all cases; but it is less common in the most frequent form of the lesion than in the other varieties, being about 20 per cent. for the ileocæcal, 28 per cent. for the colic, and 61 per cent. for the enteric. It is most rare, moreover, in children under the age of eleven years, in whom intussusception is most common, and its mortality is over 40 per cent., being relatively higher at the very ages when spontaneous elimination is most frequent. Hence, although three-fifths of the cases, and many of them of the gravest character, recover after sloughing of the invaginated bowel, this termination holds out delusive hopes, and it may be safely said that in children under eleven years, who constitute 50 per cent. of all forms of invagination, not more than twelve out of every hundred will be the subjects of spontaneous cure.

From these considerations, Mr. Treves deduces the axiom to place no reliance upon expectant measures, but to treat the case promptly and actively. Of remedial agents, opium stands at the head of the list. It places the bowel in a state of physiological rest, checks pain, relieves shock, prevents the increase in the size of the invagination, although the process of strangulation may still progress, and places the patient in the most favorable position for the employment of further treatment. No nourishment should be given by the mouth in acute cases, as food is rejected almost as soon as it is swallowed, while thirst may be relieved by enemata or by sucking ice.

With a view to the reduction of the invagination, injections of water, at a temperature of 99° F., should be resorted to as soon as the patient is under the influence of opium, but no benefit can be expected to attend their use in acute cases after the second day.

In subacute cases, on the other hand, successful reduction has followed the employment of enemata at almost any period of the disease, even after the lapse of twenty days. Massage, electricity, the use of metallic mercury, ice, and other modes of treatment are useless, frequently harmful, and waste precious time. Hence, should enemata and opium fail, laparotomy is indicated in all acute and subacute cases within the first forty-eight hours, and, if possible, within the first twenty-four hours when the patient is an infant or young child.

The procedure should be conducted with strict antiseptic precautions, and the median incision is preferable, as it permits exploration of the entire area of the abdomen. When the state of the gut warrants it, gentle attempts should be made to reduce the invagination; but should the reduction be difficult or impossible, or should the bowel be severely damaged, or partially or wholly gangrenous, the involved parts should be resected, and an artificial anus be established. The practice of uniting the divided ends of the bowel immediately after the resection is to be condemned; but the artificial anus may subsequently be cured by the ordinary resection operation.

The mortality of laparotomy is 72.7 per cent. as estimated from 33 recorded cases; where the reduction was easy, it was only 30 per cent., while it was 91.3 per cent. where it was difficult or impossible. If in the future the operation be performed early, there is every reason to believe that the fatality will be much less.

Having drawn attention to the principal points discussed by Mr. Treves, it only remains for us to say that we think that the rules of practice which he has laid down are correct, and that they will be approved by the majority of surgeons. Mr. Bryant, indeed, goes still further, since he advises that laparotomy, with the formation of an artificial anus, should be performed in all cases of acute intussusception as soon as the diagnosis is made, and in all cases of chronic invagination which have not been relieved by other measures within three or four days.

PRECOCIOUS MATURITY.

WHILE it has been proved that race, climate, mode of life, and heredity are important factors in determining the time of the first menstruation, that, which has been called by Raciborski the genital sense, may have a greater power than all of these. This genital power varies in individuals, and hence we find a difference in individuals living in the same climate, and apparently surrounded by the same circumstances and under the same influences, as to the time when the first menstrual flow occurs. The great energy of the genital sense explains, too, the advent of menstruation in those who, so far as their age is concerned, are mere children, or even infants. Examples of these "emmenic monstrosities" are occasionally reported in medical journals, and recently DR. V. GAUTIER has collected, in the *Journal D'Accouchements*, forty-one instances of what is called precocious maturity, and presents some interesting facts in regard to them.

In about one-half the cases menstruation appeared in the first year; adding to these those in which menstruation occurred in the second year, the number first menstruating within two years becomes more than one-half. Dr. Gautier justly observes that menstruation within the first two years is so striking a fact, that all cases of this kind are published, while with each added year the occurrence is not so remarkable, and hence the cases are not so generally reported. He believes that, while examples of menstruation at seven or eight years have been published, he is the first to record a case of menstruation between five and six years.

One of the most interesting cases the author has given is that of a girl dying at three years and a half from a hematocele, an external flow having been impossible because of genital atresia.

Those who have met with cases of precocious menstruation—we have seen a girl who menstruated at three years and a half—have observed that the menstruation is but a part of the evidence of early puberty. These emmenic monstrosities have a physical development far beyond their years, or, as it may be, months; their weight is four or five times greater than that belonging to their age, and the pelvis and the mammary glands have undergone a precocious development. The exception to this rule is furnished by infants who have a hemorrhage from the sexual organs at birth, which returns with more or less regularity: in these cases no similar development has been seen.

It is very natural and very common for mothers to be anxious in regard to children manifesting the signs of precocious maturity: this is especially true if the puberty is shown by menstruation. The family physician will usually be applied to for some means to stop the periodical flow. Of course, however, he will recognize the wisdom of non-interference, carefully abstaining from remedies to check a physiological discharge, and directing his attention to the child's general health.

TOXIC PROPERTIES OF NORMAL URINE.

THAT normal urine is possessed of toxic properties has been affirmed and denied by various observers. The former opinion, however, has most supporters, and efforts have been made to identify the toxic substance which at one time has been said to be urea, and at others uric acid, creatin, and the salts of potassium.

The subject has been investigated by GAUTIER, POUCHET, BROUARDEL, BOUTMY, and others, who discovered and studied the substance known as ptomaine, which, on account of its behavior, was regarded as an alkaloid—the alkaloid of putrefaction.

Recently, however, M. BOUCHARD, in a communication to the Société de Biologie, of which a résumé is published in *Le Progrès Médicale*, Dec. 20, 1884, has treated the subject anew. He concludes that there exist alkaloids in the normal state of the living organism and are formed in the digestive tract, where they are elaborated by vegetable organisms which are the agents of putrefaction. The alkaloids of the normal urine represent a part of the alkaloids of the intestine, whence they are absorbed, and excreted by the kidneys.

Before proceeding to study the toxic substance itself, Bouchard investigated its effect upon animals by the intravenous injection of urine. He thus ascertained that from fifteen to twenty drops of urine, either in its natural state or neutralized, were sufficient to kill a frog, and that, in the dog, by the injection of a sufficient quantity, there were produced contraction of the pupil, diminution in the number of respirations, feebleness of muscular movement, lowering of temperature, abolition of reflex movements, and a state of torpor, soon succeeded by death from arrest of respiration, the heart continuing to beat for some time. The effects vary in intensity with the quantity injected, and when the animal recovers, muscular feebleness continues until the functions are reëstablished apparently by an abundant secretion of urine. These symptoms at least suggest those of uræmia.

The observer then sought to determine the elements in which the toxic influences reside. Urea and uric acid were both shown to be innocuous, while the salts of potassium exist in too small proportion to be harmful. On the other hand, there was reason to believe that some toxic properties do reside in the coloring matters of the urine, since urine filtered through animal charcoal was found to be less toxic in its effects than unfiltered urine, while such effects were not totally removed. That the poisonous properties are not due to volatile substances, is proved by the fact that ebullition does not destroy them, and that they persist in the extracts of urine as well as in the natural liquid, and especially in the alcoholic extract, which does not, however, produce contraction of the pupil but salivation in its stead. This same alkaloid, the alcoholic extract of which produces salivation, is found also in the liver, in muscle, and in blood. Finally, if the residue left after extraction with alcohol be redissolved with water, and the solution thus obtained be injected into the veins, the phenomena are much more serious than when the alcoholic extract itself is injected.

These toxic effects of urine are found to be increased even by a simple cold, or feeling of lassitude, as well as by more serious acute maladies, showing the extreme importance of a knowledge of the substances producing them, since one may ultimately expect therapeutics to be influenced by such information.

As the result of these observations, Bouchard has concluded that toxic influences reside not in a single one, but in several of the constituent elements of the urine, none of which, however, except the coloring matters, has been definitely ascertained. Doubtless further accurate chemical researches will shortly add to our knowledge of these matters.

TARNIER'S BASIOTRIBE.

A RECENT number of *Le Progrès Médicale* contains a communication made to the Copenhagen Congress by Dr. PAUL BAR upon the mode of employing Tarnier's basiotribe, and the results obtained by it, As our readers doubtless know, this recent invention of the distinguished Paris obstetrician consists of three branches, two of these being similar to the blades of the cephalotribe, and similarly connected by a compressing-screw, while the third is a perforator. The instrument happily unites the advantages of the cranioclast and of the cephalotribe. As illustrating the value of the instrument, Dr. Bar narrates a case in which delivery was successfully effected by it, though the antero-posterior diameter of the inlet was only two inches and three-tenths.

The combination of a perforator with an extractor, and an extractor that grasps so firmly that it cannot slip, certainly presents obvious advantages. Tarnier's perforator is certainly quite equal to Simpson's basylist, or to Hubert's transforator in breaking the base of the skull, and we should think more easily and safely manipulated than either of the latter. After using the basylist, Simpson employs the cranioclast for extraction, while Hubert, after transforation, united delivery to the uterine contractions, or aided them by slight traction. Tarnier's method seems simpler, more rapid, and safer.

A CENTURY OF PUBLISHING.

ON the occasion of the Centennial Anniversary of the foundation of their business house, Lea Brothers & Co. have issued an interesting sketch of its history, which dates back nearly to the birth of the Republic. The business was established by Matthew Carey, who, at the early age of twenty-five, after having attained considerable reputation as a political writer, left his native land, in disguise, at a time when there was a criminal prosecution hanging over him for libel on the Premier, and the Attorney-General had filed a bill to deprive him of the protection of the grand jury. He at once established

in Philadelphia a daily paper, called *The Pennsylvania Evening Herald*, followed shortly after by a monthly magazine, subsequently known as *The American Museum*. The publication of books soon followed upon journalism, and the medical branch of the business took firm root with the establishment, in 1820, of the *Philadelphia Journal of the Medical and Physical Sciences*, which, in 1827, changed its name to *The American Journal of the Medical Sciences*, and which is now, with the single exception of the *Edinburgh Medical Journal*, the oldest existing medical journal in the English language. The Medical News was established by the same house in 1843.

The medical department of the business soon assumed leading proportions, and, finally, upwards of forty years ago the attention of the firm became concentrated on it, and its list of publications contains the books of Wistar, Chapman, Coxe, Horner, Gibson, Dewees, Dunglison, Meigs, Hodge, Gross, and, in addition, of nearly all the prominent medical writers of the present day.

During its long career, the house has been in intimate business relations with the profession in this country, it has supplied it with by far the greater part of its literature, and the works of almost all the leading American medical writers bear its imprint. During the whole of this period, it has invariably maintained its commercial honor, and never failed to meet its obligations to the day, and has enjoyed the entire confidence and esteem of its patrons.

With such an honorable record, the house enters upon the second century of its existence, with all the evidences of undiminished vigor and energy, and with the best wishes of the profession for a long continuance of the prosperity which has marked its past career.

"FURTHER WEST."

Dr. Skene Keith, son of the great ovariotomist, in discussing before the Edinburgh Obstetrical Society Emmet's operation for tears of the neck of the womb, stated that "when he returned from America he had too sanguine ideas of the value of the operation, and was eager to perform it on all possible cases. Since then he had modified his views; and even by Emmet himself the operation was now one which was comparatively seldom performed. Those who most frequently performed it were chiefly the men further west."

Dr. Keith, whose visit to this country a year ago is remembered with pleasure by the members of the profession who met him, is probably mistaken in his statement as to those who chiefly perform the operation in question being "further west." Both east and west, in some localities, there may be found men who attach too great value to the operation, and are unwilling to listen to the conservative teaching of Dr. Emmet himself, and to follow his advice. But we do not believe that such men are more numerous in one than in another part of our country. Light and darkness belong not to places so much as to men, and in this country of magnificent distances, but of easy communication, and a country with a universally pervading periodical literature, knowledge and professional skill are not bounded by geographical lines, or determined by the number of miles a man lives from the seaboard.

REVIEWS.

The Formation of Poisons by Micro-organisms. A Biological Study of the Germ Theory of Disease. By G. V. Black, M.D., D.D.S. Pp. 178. Philadelphia: P. Blakiston, Son & Co., 1884.

The second portion of this volume, for which alone the author claims originality, professes to supply the *why* of many experimental facts furnished by such mere routine observers as Koch and Pasteur, and when sifted, as the author suggests, is found to contain some good grains among the chaff—a faint praise to which many more pretentious works are less fairly entitled. After a fair account of the rise and progress of the germ theory, in the first part of the book, Dr. Black starts, in his second section, with the statement that the mere presence of the organisms is not a sufficient cause for the diseases which experiment teaches us are produced by them, and endeavors to show that the phenomena of the contagious diseases are in many cases best explained by the supposition that during the growth of their severally characteristic bacteria, ferments somewhat analogous to ptyalin, pepsin, etc., are formed, and act as local or general poisons upon the animal system in which their development occurs. This doctrine, as is pointed out, fully accords with what we know of the life history of the *Torula cerevisiæ* or yeast plant, during the development of which, sugar is split up into alcohol and acetic acid, as well as of many similar fungoid growths. It also gains support from the curious experiment of Sachs, proving the power of plant roots to corrode, and, as it were, digest the surface of a polished marble plate, upon which they ramify. A well-sustained effort is made to compare this operation with the resorptive digestion in an animal body, by which a clot of blood, a catgut ligature, the fang of a temporary tooth, or a fragment of necrosed bone is removed. Finally, the violent symptoms of many acute infectious diseases in their more virulent forms are attributed to the rapid development of poisons similar to the vegetable alkaloids, to the ptomaines, or to Bergman's sepsin, produced by particular bacteria, which "remoleculize" the normal fluids into compounds noxious to life. Such a theory as this admirably explains the phenomena presented in rapidly fatal cases of cholera, in which death takes place before time for a general distribution of bacilli throughout the economy in dangerous abundance is allowed. It also gives a clue to the mechanism of speedy death induced in mice by injections of the contents of the intestines of cholera patients from which the bacilli had been removed. In an appendix, Dr. Black ably argues in

favor of the hypothesis that dental caries is the result of various corrosive materials elaborated in the mouth during the process of fungoid growth, substantially as urged by Leber and Rottenstein in 1868.

This really useful book is marred by evidences of imperfect scholarship. Thus, for example, the well-known treatise, "*De re rusticâ*," of Varro (not that of Cato), is cited on page 14 as if it were the name of some author of antiquity, and by way of rendering the blunder more ludicrous, has the constituent words of its title connected by hyphens, in a manner which would have sadly shocked the sensibilities of the erudite old Roman.

SOCIETY PROCEEDINGS.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

Seventy-ninth Annual Meeting, held in Albany, February 3, 4, and 5, 1885.

(*By Telegraph from our Special Reporter.*)

TUESDAY, FEBRUARY 3D—FIRST DAY.

MORNING SESSION.

THE Seventy-ninth Annual Meeting was held in Agricultural and Geological Hall, and the Society was called to order at 10 A.M. THE PRESIDENT, DR. B. F. SHERMAN, of Ogdensburgh, in the Chair.

The session was opened with prayer by Rev. Dr. Reese.

THE PRESIDENT then delivered his

INAUGURAL ADDRESS.

He said: Gentlemen, in behalf of the Medical Society of the State of New York, I welcome you to this, its seventy-ninth annual session.

I recognize before me many familiar faces, also some new ones, and am sorry to see that some of our former friends and co-workers are conspicuous by their absence; but earnestly hope and believe that, after a sober second thought, our brothers will return to the old home, the doors of which shall always be open to receive all the honest workers in science and searchers for the truth.

We live in an age of wonderful improvements, and our profession in all its branches has kept fully abreast with the age. One of its latest gifts to suffering humanity is the new anæsthetic, cocaine, which promises in its relief of pain and suffering to be second to ether and chloroform, and to simplify many important, as well as minor, surgical operations. To make this Society what it should be, demands an earnest effort on the part of us all, and perhaps some change in the programme. We should have a better room in which to hold our meetings, one with better acoustic properties as well as better ventilation. Too many members and delegates come here to serve two masters—to represent their county societies in this meeting, and at the same time to represent their local Masonic lodges in the Masonic convention, or to see and study the white elephants of the city. We should have a less number of papers and devote more time to the discussion of the few. We should at once memorialize Congress to furnish a fireproof building for the preservation of the National Medical Library and Museum. I would respectfully advise the amendment of article 2, section 2, of the by-laws, in a way as to require but one Address from the President, and that on the opening of the first day's session.

He presented a communication from the New Jersey Medical Society in regard to a prescribed preparatory curriculum, and suggested its reference to a special committee, to report at the next annual meeting.

The following committees were then appointed:

Business Committee.—Drs. J. V. Kendall, of Baldwinsville; Laurence Johnson, of New York; and L. E. Felton, of Potsdam.

Committee on the President's Address.—Drs. W. W. Potter, of Buffalo; T. H. Squire, of Elmira; and A. M. Phelps, of Chateaugay.

COMMUNICATIONS FROM COUNTY MEDICAL SOCIETIES

were then called for.

The Erie County Medical Society presented the following:

At the annual meeting of the Erie County Medical Society, held January 13, 1885, the following resolutions were unanimously adopted:

Whereas, The Medical Society of the County of Erie has, during the year last past, frequently placed upon record its appreciation of the importance of the matter of State license of practitioners of medicine, and

Whereas, This subject is receiving the earnest attention of the medical profession of the State as represented by the Medical Society of the State of New York, therefore

Resolved, That this Society would respectfully represent to the Medical Society of the State of New York, its confirmed sense and conviction of the importance of securing to the profession and the public the advantages of a State licensing board.

Resolved, That it is the further sense of this Society that such State licensing board should be composed of men having no connection with any medical institutions liable to conflict with the full and unbiassed discharge of their duty as State examiners.

The New York County Medical Society presented a number of biographical sketches; also some suggestions in reference to business, and some resolutions in regard to the By-Laws, which were referred to the Committee on the By-Laws.

DR. HENRY I. BOWDITCH, of Boston, an honorary member of the Society, was introduced and invited to a seat on the platform.

DR. W. W. POTTER, of Buffalo, read a paper entitled

A CASE OF ACUTE PELVIC ABSCESS, WITH REMARKS.

The case related was of a woman 38 years old, who was seized with pain in the right iliac region, without preceding illness, and ten days afterwards the reporter drew off, by aspiration through the vagina, nearly or quite two quarts of fetid pus. A drainage-tube was inserted after enlarging the opening, and the cavity washed out with mercuric chloride water, 1 to 3000. The symptoms of septic absorption were marked, and, two days after the operation, the patient was thought to be dying. She rallied, however, under hypodermatic injections of brandy, ether, and alcohol, and made a good recovery at the end of six weeks. Iodoform was injected into the pus cavity in the form of an emulsion, and this was believed to play an important part in the

successful issue, for, in one week after commencing its use, the pus cavity closed by granulation, and the drainage-tube was no longer required. The interesting points which the case presented were:

1. The rapidity with which so large an abscess formed in the non-puerperal woman.

2. The large quantity of pus which accumulated in so short a time, and which was drawn off at a single sitting.

3. The corresponding rapidity with which the cavity filled by granulation, and finally closed.

4. The introduction of iodoform by emulsion into the cavity, and the rapid improvement which seemed due to its use.

The pathology of non-puerperal pelvic abscess was briefly considered, and its surgical treatment dwelt upon at some length. The treatment by evacuation was regarded as the only safe method. This could be done through the vagina if the abscess was within easy reach —*i. e.*, well down in the pelvic cavity; but, if high up, and hard pressure in the posterior vaginal cul-de-sac, or vault, were required to reach it, then the method of Tait was advocated. This consists, essentially, in opening the abdomen down upon the tumor, stitching the abscess sac to the margins of the incision, laying it open freely, cleansing it antiseptically, and inserting a drainage-tube.

Byford's plan of curetting the walls of chronic abscesses for the removal of tag-like formations was commended as both useful and scientific, in cases in which these pathological formations are found to consist.

The improved methods of diagnosis in pelvic diseases were referred to, viz.: The Sims's position, bimanual palpation, and the aspirator; and the corresponding improvement in the surgical care of these cases since antiseptics have come into vogue, was remarked upon.

Particular stress was laid upon the necessity for the complete evacuation, and thorough cleansing of the abscess sac at the first sitting, as well as the frequent and careful washing out of it subsequently; all of which must receive the personal attention of the surgeon, for he alone is familiar with the topography of the abscess and its surroundings.

Dr. Mundé, of New York, could not help believing, from the history of the case, that the abscess must have been due to one of two things, either a hematocele accumulating and becoming rapidly septic, or the result of septic material being carried into the pelvic cavity from salpingitis, or through the Fallopian tube. The general character indicated that the inflammation had not been in the connective tissue. If such had been the case, he could not see how so large an abscess could form in the connective tissue in so short a time.

He thought that it would have been better to have avoided the use of the lancet and have enlarged the opening by stretching. He considered a 1 to 3000 a rather strong solution of corrosive sublimate, to be used so often as is necessary in these cases. He would begin with 1 to 1000, and reduce to 1 to 5000, and would use this every half hour. In using the drainage-tube he had secured it in some instances to the cervix with a silver wire. His recent studies had led him to believe that the most common cause of these abscesses, as well as of local peritonitis, was salpingitis, and that through the Fallopian tube, which furnishes communication between the exterior and the peritoneal cavity, septic material passes.

In regard to treatment, he did not consider opening into the vagina the best in all cases. If the abscess is large and points in the vagina, such an operation is proper, but in many of these cases the abscess does not so point, and this especially is the case in abscess in the cellular tissue. In the large majority of cases he thought that the best plan would be to open the peritoneal cavity and evacuate the abscess. If it involves the tube and ovary and is small, the whole mass may be removed together and a drainage-tube be put in. If the abscess is large and fetid, and there is danger of septic infection, there would be no objection to cutting down and making a counter-opening in Douglas's cul-de-sac. In many of these cases even if the abscess is evacuated through the vagina, drainage will have to be continued almost indefinitely, for the original trouble, the inflammation of the Fallopian tube, is left behind.

Dr. Ely, of Rochester, reported a case of pelvic abscess treated in a manner somewhat different from the case of Dr. Potter. This was a case of latent abscess, the patient presenting no symptoms of pelvic trouble, but seeking advice only for a general ill-health and latent suppuration. It was in an unmarried girl of sixteen. Attention being attracted to the abdominal region, examination revealed a tumor which simulated pregnancy. Examination per vaginam, however, showed a small uterus, and suspicion of an abscess was aroused. There was no pointing in the vagina. Dr. Moore, of Rochester, saw the case, and concurred in the diagnosis of a collection of pus. A large curved trocar was introduced below the navel and carried through into Douglas's pouch. The removal of the trocar was followed by the escape of three pints of fetid pus. A drainage-tube was inserted, one extremity projecting from the abdominal wound and the other into the vagina. The abscess cavity was washed frequently with warm water. The result was rapid closure of the abscess and complete recovery of the patient.

Dr. Bowditch, of Boston, described a case illustrating the advantages of abdominal section. A child, two years of age, was seen in consultation in a condition of apparent articulo mortis, suffering with an abscess within the abdominal cavity. The abdomen was punctured and a large amount of pus escaped. Three days later the pus had reaccumulated. The incision was then made into the abdomen, and the peritoneal cavity was thoroughly washed out. Complete recovery followed in a short time. He thought that surgeons were too much afraid of opening the peritoneal cavity, and in his opinion no one should ever be allowed to die where there was a chance of benefit from this operation.

Dr. Baker called attention to the method recommended by Dr. Emmet in the early treatment of pelvic inflammation—*i. e.*, the continuous use of water so hot that the external parts have to be protected. This treatment will abort many cases if begun early.

Dr. Potter, in closing the discussion, said that he had not been able to give all the details in the limited time permitted to him. In regard to causation, the question of retained products of conception was considered, but rejected. Hematocele was considered, but when first examined there was no immobility of the

pelvic organ, and nothing to indicate that the abdominal cavity was involved. In regard to the use of the knife, he had no means of dilatation, and as the opening was in the central line, he considered it safe to use the lancet. Under any other circumstance, he should avoid the knife.

DR. DAVID WEBSTER, of New York, then read a paper on

JEQUIRITY AS A REMEDY FOR GRANULATED LIDS WITH PANNUS.

He opened with a reference to the number of chronic cases which must be treated by the general practitioner, and he thought that jequirity, if used with proper care, could be employed by the general practitioner, if the following rules be observed:

1. Use the drug only in cases in which considerable pannus exists.

2. Use nothing stronger than a one-fourth of one per cent. solution.

3. Make the application only once a day, and do not repeat it after the characteristic inflammatory reaction begins to show itself.

A solution of the proper strength may be made by mixing an average-sized bean in one ounce of water. This should be allowed to stand for four hours and then filtered. After being kept a week, the solution becomes worthless. The solution should be thoroughly applied over the eyelids and the patient allowed to bathe the eye with it for about five minutes. One application is generally sufficient, although it sometimes has to be repeated. In a day or two, the conjunctiva is covered with a thin membrane. The inflammation subsides after a few days, and the granulations and pannus will be found to have disappeared. If the cure is imperfect, the application may be repeated in the course of a month.

DR. ROOSA, of New York, considered jequirity a valuable remedy in the intractable cases described.

DR. T. R. POOLEY, of New York, considered jequirity a very dangerous drug. It is of little or no use except in cases in which it is justifiable to resort to extreme and hazardous measures.

The further discussion of Dr. Webster's paper was postponed to allow of the reading of reports from several committees.

THE COMMITTEE ON LEGISLATION

reported that they had found that a bill to incorporate the Hydro-therapeutic Institute of New York had been simply a measure to revitalize the United States Medical College. This measure was defeated.

A bill legalizing the graduates of the United States Medical College and the College of Physicians and Surgeons, of Buffalo, was not objected to, but certain amendments were proposed which were adopted. These were that the bill should apply only to those who graduated in good faith prior to April 25, 1885. A bill to organize the Niagara University was found objectionable in certain particulars, but these having been removed, the bill was allowed to pass.

The bill to establish a College of Midwifery was objectionable in every particular, and was finally defeated.

A curiosity in the way of medical legislation, which had come under the notice of the Committee, was a bill empowering the chiefs of Indian tribes to examine and license persons in their tribes to practise medicine. This bill was passed unrecognized by its opponents, and it had been impossible to convince the Governor of the necessity of vetoing it.

The Committee suggested an amendment to the laws of 1813, which limited the amount of real or personal estate which a county medical society may hold, the amendment to read: It shall be made lawful for any medical society to purchase and hold any real or personal estate for the use of said society, provided that such real or personal estate shall not exceed $50,000, and further provided that no member be assessed more than five dollars in any one year.

A motion was made to adopt the recommendation in regard to

THE AMENDMENT OF THE LAW OF 1813.

DR. JACOBI, of New York, thought that it was not wise to limit a large society to the same sum as a small society, and suggested that a certain amount, say one dollar per member, would be better.

DR. PIFFARD, of New York, considered that this would have an injurious effect on the bill, as partaking of discriminative legislation.

DR. STURGIS, of New York, moved to amend so as to allow the New York County Medical Society to hold property to the amount of $100,000. Adopted.

The resolution, as amended, was adopted.

The report of the Special Committee on the

BILL TO ESTABLISH A STATE BOARD OF MEDICAL EXAMINERS

was then presented.

The Committee recommended a bill, of which the following abstract was given: It provides for two boards of medical examiners, one for the northern and one for the southern part of the State. Each board is to consist of six persons. They shall hold office for one year only, and shall not be eligible to reëlection within three years. Four subjects were to be examined on, viz.: Medicine, Surgery, Midwifery, and Therapeutics; one examiner in each of the first three named branches, three examiners in therapeutics. Each candidate may choose which of the examiners in therapeutics he will appear before. Two members of the board must be members of the Medical Society of the State of New York, two must be connected with an incorporated medical college, but not connected with the State Society, and two must not be connected with either. The salary of each examiner shall be one-sixth of the surplus fees of the Board, provided this does not exceed $600, except in the case of the secretary and treasurer, who shall receive extra compensation. The remainder of the bill is intended to carry out these provisions.

DR. PIFFARD moved that the bill be made the special order for the meeting of Tuesday evening.

DR. FOSTER moved to amend, to have the bill printed, furnished to the members, and action be deferred to the next annual meeting. Lost.

Dr. Piffard's motion was then adopted.

It was resolved to have the bill printed at once and distributed.

The discussion of Dr. Webster's paper on

JEQUIRITY IN THE TREATMENT OF GRANULATED LIDS

was resumed.

Dr. Knapp, of New York, said that the jequirity treatment had in some cases produced excellent result. It was used at first in many cases, but soon disastrous results were reported, and its circle of indications have gradually become more and more limited, and was now so contracted that its employment should be confined to those desperate cases in which other remedies continued for months had failed. He had at first used it in weak solution, one or two per cent. In the majority of cases, it produced only a mild catarrh, with little influence on the abnormal condition. In five per cent. solution, it produced marked reaction. In some of the cases, there was marked improvement. In other cases, corneal ulcers were the consequence. This had occurred in three cases. In two, the sight was saved, but in the third the cornea sloughed and both eyes were destroyed, The operation of this remedy is to be compared to inoculation with blenorrhagic matter, but it is cleaner and less dangerous. Another remedy which he had used is the so-called peritomy. In a number of cases, this cleared up the pannus, but with it, also, there may be sloughing of the cornea.

Before closing, he referred to a method of treatment of trachoma which he had used largely. This is the old method with sulphate of copper stick. The stick should be perfectly smooth and care be taken to see that the application is thoroughly made to all parts of the affected membrane. The treatment, if persisted in, will give decided improvement in the course of three months,

Dr. Webster did not think that the fact that eyes had been lost after the use of jequirity was a good reason why it should never be used in the desperate cases in which he had recommended it. The same objection might be raised to many other procedures in ophthalmic surgery. Eyes are lost without any treatment, and he had seen them lost under the sulphate of copper treatment.

THE COMMITTEE ON EXPERIMENTAL MEDICINE

reported that no anti-vivisection bill had been presented at the last session of the legislature. They recommended the adoption of the following resolution :

Resolved, That the Medical Society of the State of New York hereby reiterates its conviction that the untrammelled right on the part of medical men to perform experiments on animals is essential to the progress of medicine. Adopted.

The *Committee on Hygiene* made a report which was received and placed on file.

The *Committee on Prize Essays* reported that no essay had been submitted. Received and filed.

Dr. D. B. St. John Roosa, of New York, then presented a paper on

THE REMOVAL OF A CATARACTOUS LENS IN ITS CAPSULE.

If it can safely be performed, he thought that removal of the lens in its capsule would be the best means of removing a senile lens. He suggested an operation which avoids the dangers of the other operations which are generally resorted to. He had performed it in 24 cases. He first inserts a speculum, and, holding the edge with fixation-forceps, then with a Graefe knife a large flap of the cornea is made, and when the section is half completed the back of the knife is turned so as to rest upon the iris, and motion and pressure are made with a view of rupturing the capsule; the lens is forced out by pressure. In some few cases it has been necessary to cut the capsule. Since October last, in every case in which he has attempted it, he has been able to complete the removal of the lens with its capsule. He thinks that cocaine has contributed to the success of the operation. This procedure, he believes, does away with the dangers of the ordinary operation. He does not perform an iridectomy.

Dr. Knapp had performed the old operation, in which iridectomy was not done, some two hundred times, and he thought it was fraught with considerable danger, either at once or in the course of healing. It is possible that the use of cocaine may conduce to the successful performance of the operation without iridectomy; but he thought the results would not be as good as when the iris was nicely excised.

Dr. Webster had seen many of the cases operated on by the method of Dr. Roosa, and he had at first been prejudiced against it, but he was gradually coming to view it more favorably.

Dr. Roosa stated that he had operated on only 24 cases, and that there had been two total failures, which, however, had nothing to do with the lens. The point in the operation is, that there is comparatively no danger of loss of vitreous. Another important point is the fact that no instrument is inserted into the eye after the section is made.

A paper on *The Use and Limitations of Hydrochlorate of Cocaine*, by C. R. Agnew, M.D., was read by title.

Adjourned.

Afternoon Session.

THE NOMINATING COMMITTEE

was announced as follows :

1st District, S. O. Vanderpoel, of New York.
2d District, E. F. Brush, of Mt. Vernon, West Chester.
3d District, Herman Bendell, of Albany.
4th District, E. Beach, of Gloversville, Fulton Co.
5th District, I. N. Goff, of Cazenovia, Madison Co.
6th District, I. C. Edson, of Windsor, Broom Co.
7th District, Francis M. Hamlin, of Auburn, Cayuga County.
8th District, F. J. Baker, of Lockport, Niagara Co.
From the Society at Large, appointed by the President, W. W. Potter, of Buffalo.

Dr. Milton Josiah Roberts, of New York, read a paper on

ANATOMICAL GEOMETRY AND TOPONYMY: AN INTRODUCTION TO THE SCIENTIFIC STUDY OF DEFORMITIES.

He stated that, next in importance to the notation of physical facts is the determination of their quantitative relationship to other facts—their mensuration. The measurement of anatomical angles was of direct practical importance to every physician and surgeon. For the purpose of accuracy and facility in our description and comparison of the attitude of individuals and the position of component parts, Dr. Roberts defined a number of toponymical terms useful in describing deformities.

For the purpose of studying the normal condition of the human body as to its form and symmetry and the

extent of mobility of its component parts, so as to determine and describe pathological deviations therefrom, a uniform position of the body was suggested. This was, when the individual stood erect, resting equal weight on both feet, with the soft parts over the femoral condyles and malleoli in contact or equidistant from each other, the feet slightly everted, and the head, trunk, and extremities forming practically an unbroken column.

Having pointed out the normal relationships of the planes of the body and limbs, the author declared that it was the business of the scientific physician to endeavor to estimate quantitatively such relationships as soon as they were recognizable. With such information at hand, the amount of pathological deviation therefrom could be determined.

Dr. Roberts suggested the use of the word *diastrophometry*. The angles to be measured in several important examples of pathological deviations of the planes of the body and limbs were then detailed, after which he described three mathematical instruments of his own invention for the measurement of the extent of angular deformities in the human subject.

In conclusion, the speaker declared that, with these three instruments, the orthopædic surgeon would find himself as thoroughly equipped for the accurate measurement of angular deformities of the body as the oculist is, with his ophthalmoscope and trial glasses, for the measurement of errors of refraction.

DR. T. R. POOLEY, of New York, offered some

OBSERVATIONS ON THE USE OF HYDROCHLORATE OF COCAINE.

He said: It is only by an extensive collection of clinical facts that we can reach just conclusions in regard to this drug. This paper embraces my personal views on its use. Of the chemistry, nature, and physiological properties, I shall have little or nothing to say, as they have been sufficiently dwelt upon. Nor do I attempt to give an account of the literature. I make no claim to priority, having used the drug October 17, 1884. I first used a two per cent. solution, procured in New York, but results were not satisfactory. I next used a four per cent. solution of Merck's, which is reliable. I have since used an eight per cent. solution, procured in New York; manufacture unknown.

My remarks will be confined to local anæsthesia in ophthalmic surgery and in affections of the pharynx. My experience is almost entirely limited to instillation in the conjunctival cul-de-sac and injections into the lachrymal sac and duct. I have not injected it into the orbit. There are serious objections to this method.

The use of an eight per cent. solution in the way recommended by Dr. Bradford, of Boston—*i. e.*, using one drop every minute until from three to four drops have been instilled, and performing the operation within from three to six minutes—has been satisfactory, and economizes time. When the lachrymal apparatus was the seat of operation, the solution was injected into the sac. I have used it in a variety of operations on the eye with successful results in the main. In operations on the conjunctiva involving the cutting of this membrane, the anæsthesia is complete. In operations involving subconjunctival connective tissue dissection, the anæsthesia is not complete, but this may be accomplished by instillation of the solution after cutting the conjunctiva in the vicinity of the wound, or by injection beneath the conjunctiva. I am, however, of the opinion that for all practical purposes instillation is sufficient. In operations on the lachrymal apparatus, I have not found instillation sufficient. In such cases it only reaches the puncta lachrymalia. Anæsthesia can only be obtained by injection. Instillation into the nostril enhances the anæsthetic effect. In operations involving the iris, the patients have, as a rule, confessed to pain, although in two instances this was absent. The pain may be removed by the application of a solution to the iris, but on account of protracting the operation, and the exposure of the wound to air and risk to septic infection, I should deem this unadvisable.

My experience with cocaine in cataract extraction has not been large, but sufficient to allow me to speak in the most glowing terms of its value. Among other advantages of cocaine in cataract extraction is one pointed out by Weber, and that is reduction of tension, which prevents the escape of aqueous humor. In the case of children, my preference is, as a rule, for a general anæsthetic. In only one case has any toxic effect been noticed. I have not met with trouble from hemorrhage. An objection which presents itself is the disadvantage which sometimes attends the widely dilated pupil. This can be overcome by the instillation of eserine before the use of cocaine. I have never seen any unfavorable influence on healing. In the therapeutical treatment of affections of the eye the results are not so satisfactory. My experience relates largely to facility of examination of the eye and in the treatment of defective vision. The use of cocaine to facilitate ophthalmoscopic examination has been satisfactory. Although it does not produce as thorough dilatation as atropia, it does not produce the paresis of accommodation with the subsequent annoyance of the patient. I am not particularly acquainted with its use in conjunctival affections before the application of astringents; such use would be difficult and expensive. In cases of corneal injury and ulcers it only produces a temporary alleviation of pain, and I think, owing to the expense, it will rarely be continued throughout the treatment of the disease. The facility with which dilatation of the pupil and alleviation of pain are produced with atropine in conjunction with cocaine, renders this drug of the greatest value in acute iritis. It has occurred to me that it might relieve the pain of acute glioma, although mydriatics are supposed to increase the trouble.

Dr. Moore has suggested its use in some forms of headache, and I have employed it with good results. Also in supraorbital neuralgia, where there was no error of refraction and no muscular weakness. I cannot refrain from referring to two points mentioned by Weber. One is that there is a sensation of coldness. This is real, as shown by the thermometer. The other is that the power of the rectus muscles is augmented some fifteen or twenty degrees.

I think, in conclusion, that, with rare exceptions, general anæsthesia will disappear from ophthalmoscopic surgery; and, secondly, no operation on the eye will be undertaken without the use of cocaine.

DR. KNAPP pointed out one physiological effect of cocaine—that it is a stimulant of the sympathetic ner-

vous system, and it is quite possible that the other effects may be attributed to this action. Its effects are seen principally in three directions, viz., anæsthetic, anodyne, and hæmostatic. There is dilatation of the pupil as well as of the palpebral fissure. The anæsthetic effect is probably due to the paralyzing effect on sensory nerves. It does not affect the motor nerves. It is useful for producing an anæsthetic action on all mucous membranes. Particular reference was made to its use in the tympanic cavity, as constringing the bloodvessels and thus enlarging the cavity. It is also of decided benefit in affections of the nasal cavity As to its action on the eye, he said that a few drops of a four per cent. solution injected behind the globe will produce sufficient anæsthesia to permit removal of the eye without pain, with the exception of that produced by division of the eye muscles. In operations for cataract cocaine has obtained its greatest triumph. In iridectomy there is sometimes no pain. There have been some failures which, however, cannot be attributed to the use of the drug.

Dr. Webster had seen one case of acute glaucoma in which cocaine had been used with the object of relieving pain, but without avail. Iridectomy was subsequently performed, and the case is doing well. In regard to its effects in eyes in which the conjunctiva is much inflamed, the anæsthetic effects are slight, and it takes longer to obtain them. He had done a number of iridectomies with cocaine, but had about made up his mind to abandon its use on account of the danger of wounding the anterior portion of the capsule when the iris is caught with the forceps. The patient feels pain for the first time, and makes a sudden jerk which may prove harmful.

Dr. Sherwell, of Brooklyn, had employed cocaine in the removal of a papilloma of the larynx, but its effect was very unsatisfactory. He had also employed it in painful fissure of the anus, and in the removal of small tumors, but he had never been able to obtain complete anæsthesia.

Dr. F. K. Paddock, delegate from the Massachusetts Medical Society, had used the remedy for the removal of foreign bodies from the eye, and in various affections of this organ, with success. He had also used it to prevent the pain from the application of the cautery to chancres.

Dr. Pooley said that, in regard to enucleation of the eye, he was convinced that the practice of using cocaine would soon be abandoned. There is danger of rapid absorption of the remedy, and the profound impression of a capital operation of this kind without an anæsthetic will not be tolerated by the patient. In regard to the failure reported in the removal of a tumor of the larynx, a prominent laryngologist had told him that cocaine is practically useless in such cases, and interferes with the spasm of the larynx which facilitates the introduction of forceps into the tube.

Dr. S. S. Wallian, of Bloomingdale, presented a paper on

THE PEROXIDE OF HYDROGEN.

After speaking of the chemistry of this substance, he referred to some of its actions. A solution containing twelve or fifteen volumes is sufficiently strong. It is said to have active germicide and antiseptic effects, and to be 40 per cent. stronger than mercuric chloride. It is also a disinfectant of great power, destroying the offensive matter. Only two substances excel it, and these are mercuric biniodide and iodide of silver. It is perfectly harmless and not unpleasant to use. In its application to medicine, its effect is due to the fact that it yields up one volume of oxygen. It will purify the foul air of a room better than anything else, oxygen excepted. When applied to a sloughing ulcer, the pus is destroyed and the sore rendered aseptic. It is of service in mercurial stomatitis and in aphthous ulcers. When applied to a sloughing surface, or a surface containing pus, it sets up an effervescence which continues until the pus is destroyed. On account of this property, it has been used in testing for pus in the urine. Its value is somewhat diminished for this purpose by the fact that in the presence of blood the same effervescence results. It has been used in diphtheria, with asserted good results, in dissolving the membrane and bringing the case to a satisfactory termination.

Dr. Ely, of Rochester, presented a report of a case of

CANCER OF THE LIVER, CHARACTERIZED BY A SERIES OF LOW TEMPERATURES,

occurring in a lady, aged sixty-two, who had an attack of peritonitis in 1882, and afterwards suffered from pains of a vague character, with constipation. There was a family history of cancer, which, in connection with the general signs, led to the suspicion of cancer of the liver, but no physical signs sustaining this opinion were obtained. The general symptoms continued, and the patient died on the three hundred and eighth day of her illness. The autopsy showed that the intestines were united to the bladder and abdominal walls. The substance of the liver showed marked cancerous disease which, however, produced no change in the outline of the organ. The interesting point was the low temperatures which were obtained. In all, 649 thermometric observations were taken. In 460 of these, the temperature was below normal; in 42, it was normal; and in 147, it was above normal. A large number of the temperatures were below 91.5°. The pulse never rose above 94, nor sunk below 55.

It has been generally regarded that a temperature below 91.5° is fatal. In this case, there was no evidence of collapse, and there was no chilling, although the patient felt cold. The reduction of the temperature was frequently associated with the attacks of pain, and the depressing effect of hot weather. This case goes to show that the significance of unusual symptoms is less in their individuality than in their associations, and it would seem to show the necessity of more care in the study of temperature in chronic disease.

In reply to a question, Dr. Ely stated that every ounce of urine passed was measured, and that every particle of food given was weighed. At times there was some albumen in the urine, but there was no reason to suspect renal disease, and at the autopsy none was found. The diet consisted principally of broth, milk, and eggs. The temperatures were taken in the mouth on every occasion. A trained nurse was employed, and the observations were made with a thermometer, bearing the certificate of Harvard Observatory.

Dr. Stoddard had been interested in this study by the results of Dr. Ely's investigations, and he had found

more or less frequent falls of temperature in phthisis and in other chronic conditions. He thought the study of abnormal temperatures was frequently as important as the study of high temperatures in more acute disorders.

DR. T. H. SQUIRE, of Elmira, then described a

CASE OF TUBAL PREGNANCY,

in which rupture occurred while the patient was at stool. A collection of blood in the lower portion of the abdominal cavity soon formed, and was removed with the aspirator. For some time the patient suffered from septic poisoning, and at last an exploratory incision was decided upon. So many adhesions were met with that the operation was abandoned and the wound closed. The patient at first improved after the operation, but finally sank and died nine months after the rupture had taken place. The autopsy revealed the fact that only one inch of the uterine portion of the left Fallopian tube was present; the rest, together with the right, was destroyed, or so diseased as to be scarcely recognizable. Behind the right broad ligament was an abscess containing twelve ounces of pus. As of interest in connection with the preceding paper, the speaker stated that in this case 1200 observations had been made with the thermometer, and in many instances the temperature was subnormal.

DR. L. EMMET HOLT, of New York, then read a paper entitled

DOES QUININE ABORT PNEUMONIA?

After speaking of the growing tendency to deny abortive effects to any remedy in pneumonia, he related cases of intermittent fever in children, in which, from the rapid breathing and the auscultatory signs, he was led to suspect the development of pneumonia; but this was shown not to be the case by the fact that on the following day the child would be running around with scarcely any evidence of pulmonary trouble. In some cases there was dulness on percussion. The breathing was high-pitched and broncho-vesicular in character. These signs were usually found at the apices of the lungs, but in some instances they were confined to the lower lobe. These cases were promptly relieved by anti-malarial treatment. With small doses of quinine they would also improve, and even without any treatment it was doubtful whether they would develop into pneumonia. In the abortive treatment it is considered essential to give large doses of quinine, and early in the attack. In some of these cases the treatment was deferred for one or two days.

As regards diagnosis, the temperature is usually higher in these cases than it is in the first or second days of pneumonia. Another point is the marked want of relation between the rapid breathing and other symptoms and the general expression of the patient. A third point is the presence of splenic enlargement, which usually can be made out without trouble.

DR. A. L. LOOMIS said that every one who has carefully studied the physical signs of pulmonary hyperæmia must be convinced that there are two conditions of hyperæmia differing markedly from each other. First, there is passive hyperæmia; and, secondly, active hyperæmia. The physical signs are markedly different from each other. In passive hyperæmia there is marked change in respiratory murmur, which may lead, especially in children, to the belief that there is partial consolidation of the lung. In active hyperæmia the physical signs will indicate serous effusion into the bronchial tubes. He did not believe that the passive hyperæmia which is the result of malarial infection ever goes on to the production of pneumonia, unless there is something more than the malaria. Such a condition will disappear with the relief of the malarial trouble, and it is probable that the observation of such cases has led to the supposed abortive effect of quinine.

He believed that lobar pneumonia is an infectious disease, and that when it once strikes its blow it will run a certain course which it is impossible to stop. When pneumonia has once shown its presence by a chill, elevation of temperature, and that peculiar change in respiration which assumes a high-pitched, dry character, and is so significant of the development of pneumonia, he believed that it is impossible to abort it. He also believed that it is impossible to have dulness on percussion within twenty-four hours of the beginning of the attack.

There is one more point which seems important, and that is the growing tendency to the belief that the pneumonia of to-day is different from that of ten or fifteen years ago. It seemed to him that the character of all disease had changed within that time. At that time, pneumonia occurring in a healthy individual was not considered of a serious nature.

DR. WALLIAN differed from Dr. Loomis in believing that pneumonia might be produced by malarial poisoning, and he thought that it was possible to have dulness on percussion in less than twenty-four hours after the development, and he cited a case of a man apparently well at five o'clock in the evening, who was seized with a chill at midnight, and by noon of the following day had well-marked dulness over one lobe of the lung.

DR. LOOMIS, in explanation of his statement, said that dulness might supervene in less than twenty-four hours after the chill, but the pneumonia might be in progress before the appearance of the chill. He related a case going to show this in which a patient complaining of not feeling well was tested with the thermometer and found to have a temperature of 101.5°. The temperature was taken every four hours for thirty-six hours. There was not the slightest evidence of pulmonary trouble. There had been no sense of chilliness, but at the end of this time, when the temperature had reached 102.5°, there was a chill followed in a few hours by consolidation.

EVENING SESSION.

At 8 P.M., the Society met for the consideration of the bill for the

ESTABLISHMENT OF A STATE BOARD OF MEDICAL EXAMINERS,

which had been presented by the Committee on Legislation. The bill was taken up by sections. A long debate followed over the question of whether there should be two medical boards or only one, and it was argued that if there was more than one, the standard of examination would vary.

DR. LOOMIS, of New York, and others favored two boards, believing that two are necessary because of the

size of the State, and the number of medical students in it.

An amendment offered by Dr. Roosa, providing for one board of nine members, was adopted by a vote of 60 to 24.

Section 2 was next considered, but after the introduction of several amendments and substitutes, and a great deal of discussion, the whole matter was withdrawn to permit Dr. Jacobi to present a bill which was then before the Assembly.

Dr. Jacobi, in order to bring the matter before the Society, moved the adoption of this bill.

Dr. Vanderpoel then moved that the bill be printed, and made the special order for to-morrow, at three o'clock.

A motion to lay on the table was put, and lost. The motion to postpone was then adopted. Adjourned.

Wednesday, February 4th—Second Day.

Morning Session.

The Society was called to order at 10 A.M.

THE TREASURER'S REPORT

was presented by Dr. Charles H. Porter, and exhibited a balance of $380.

THE COMMITTEE ON THE PRESIDENT'S ADDRESS

presented a report, recommending that a committee of three be appointed on the last day of the session of each year by the President-elect, and it shall be the duty of this committee, with the coöperation of the President, to secure scientific papers, print programmes, and make such arrangements as will best promote the objects of the meeting. And at the next ensuing meeting of the Society this committee is to be appointed the Business Committee.

On motion, it was determined to limit the discussion on the bill to establish a State Board of Medical Examiners to one hour and a half.

Dr. Alfred C. Post, of New York, then read a paper on

SENILE HYPERTROPHY OF THE PROSTATE.

He said that the most important results of hypertrophy are obstruction to the flow of urine and sometimes incontinence. In the early stages of the disease the symptoms are often absent. The first symptom is usually slowness in the passage of urine, and the patient is obliged to rise at night to void his bladder. There is often some sympathetic irritation of the rectum. The neck of the bladder occasionally becomes stretched, and real incontinence follows. This is more rare, however, than constant dribbling. Vesical calculi are frequently the result of hypertrophy, and the symptoms produced by them may be marked. In cases in which the catheter has to be introduced eight or nine inches, and the urine does not flow until the handle is much depressed, there is good reason to suspect hypertrophy. The indications for treatment are, to obviate results of obstruction, improve the constitutional condition, and diminish enlargement of the prostate, or retard its growth. The catheter should be used once or oftener during the day, and the bladder should be washed out. It is of the greatest importance to use a large catheter, even one of 30 mm. if necessary. If stenosis of the orifice or stricture exist, it should be removed. In using the flexible catheter, the distal extremity may be stiffened with advantage by painting with collodion. Complications, as they arise, are to be treated. The application of the actual cautery was recommended in vesical catarrh, and also the injection of from ♏iv to viij of nitric acid in four ounces of water, to prevent the formation of calculi. As regards operative interference in aggravated cases, excision of a portion of the prostate was considered justifiable. In cases in which relief cannot be afforded by the catheter, aspiration, or puncture of the bladder by a trocar through the rectum, may be resorted to.

Dr. T. H. Squire, of Elmira, said that no special skill is requisite to evacuate the bladder in cases of retention from a large prostate, and that but little preparation is required. He suggested the use of a gum catheter of large calibre and of large curve. The soft catheter he considered of great value, and he advised that the aspirator should always be at hand.

Dr. A. Vanderveer, of Albany, thought that the catheter should be used as soon as the symptoms appeared. Rubber catheters are most comfortable for the patient, but silk-web catheters are better for wear. In washing out the bladder, he is in the habit of using the fountain syringe, and he finds the Bethesda water useful in cases of phosphatic deposit. The fluid extract of the stigmata of maize or corn silk, he has also found useful. In cases of enlargement of the middle lobe, resulting in obstruction, the operation advised by Sir Henry Thompson should be practised.

Dr. H. Knapp, of New York, stated that cocaine has been successfully employed in urethral surgery. It reduces congestion, produces anæsthesia, and relieves spasm, thus rendering catheterization easy.

Dr. Lucien Howe, of Buffalo, made a *Demonstration of the Use of the Electric Light in Medical Practice.*

Dr. F. M. Hamlin, of Auburn, then read a paper on

THE OPIUM HABIT,

which contained some startling statistics touching the increase of the habit in this country, as shown by the largely increased consumption of the drug. In 1840, he said, the total quantity of opium consumed in the United States was about 20,000 pounds. In 1880 it had increased to 533,450 pounds. In 1868 it is estimated that there were from 80,000 to 100,000 victims of the opium habit in this country; now they number over 500,000. The growth of the habit has been rapid within the last few years, owing, as he thinks, to the invention of the hypodermic syringe, which has become a favorite method of administering the drug. More females than males are addicted to the use of the drug —the ratio being about three to one—women being subject to a larger number of painful ailments than men. From the time of the publication of De Quincey's *Confessions of an English Opium Eater*, in 1821, until within a few years, physicians have overlooked or ignored the serious consequences of the opium habit, and the people generally have come to look upon it as a comparatively harmless vice. It is now commanding more attention. Dr. Hamlin described the effects, immediate and remote, of the opium habit, speaking, as he said, in some degree, from personal experience, having been induced to enter upon the habit to allay the miseries of sick headache. If opium

be used inordinately during pregnancy it is apt to induce abortion, or if this do not follow, then the child is likely to be defective. He concluded his paper by presenting his method of treatment for the cure of the habit, which he describes as a sudden reduction in the quantity of opium indulged in; not an immediate and total cessation of its use, which would be injurious, but a reduction in quantity covering a week or two weeks, and accompanied with stimulants of a different kind, such as hyoscyamus, belladonna, etc., until a cure is effected.

Under this method of treatment, he thought that every case not connected with a chronic painful affection could be cured. The after-treatment is similar to that pursued in cases of typhoid fever.

Dr. William Hailes, Jr., of Albany, then made some remarks on

THE CULTURE OF BACTERIA,

and exhibited the apparatus used. The tubes shown were similar to those of Koch. His culture-medium consisted of a hundred parts of water to five of gelatine, with two grains of phosphate of sodium. The solution was then clarified with albumen, and filtered.

The matter to be studied is introduced into the culture-medium, the tube sealed, and the subsequent changes studied. Good water does not break down gelatine in less than twelve days; impure water, in three to four days. Demonstration of the technique was made, and the results were shown.

Dr. S. M. Phelps, of Chateaugay, explained a new method of

THE TREATMENT OF HARELIP.

After referring to the defects of other operations, he described and illustrated with diagrams an original method whereby the artistic shape of the lip was secured. This method is applicable to all cases in which at least one-fourth of the lip is preserved.

Afternoon Session.

THE BILL FOR THE ESTABLISHMENT OF A STATE BOARD OF MEDICAL EXAMINERS.

Dr. Jacobi, of New York, said that he had been informed that the Special Committee on Legislation, after a full debate, had agreed upon a report upon the bill to be presented to the Legislature touching a Board of Medical Examiners, and in view of that fact he asked to withdraw the motion made by him yesterday with regard to the representation of medical colleges in the Board.

A resolution from the Committee was reported providing that the draft of the bill reported by the special committee shall be referred to the Standing Committee on Legislation, with the following instructions: That the bill shall be presented to the Legislature after it has been amended so as to provide for one board of medical examiners, to consist of nine members, six of whom are to come from the Medical Society of the State of New York, of which six three shall be selected from those not connected with incorporated medical colleges, and three from those who are members of faculties of incorporated medical colleges; the other three to come from the other two incorporated State medical societies in proportion to their just representation; the board to be appointed by the Regents of the University annually, without disqualification for reappointment; the following subjects to be included in the examination: anatomy, physiology, hygiene, chemistry, pathology, and the practice of medicine, surgery, midwifery, therapeutics; the pay of the examiners to be $800. Section 6 of the Heath bill, relative to anonymous examinations, is adopted; the rest of the bill to be modified to meet the above requirements; the whole to be carefully revised under competent legal advice.

The resolution was unanimously adopted.

Dr. C. H. Porter, of Albany, offered a resolution which was adopted, directing the Committee on Legislation to request the Legislature to enact a law that will enable the State Medical Society to

REGULATE AND CONTROL ITS OWN MEMBERSHIP.

Dr. Wm. F. Mittendorf, of New York, then made some

REMARKS ON THE TREATMENT OF GRANULAR LIDS.

The frequency of this affection, he said, is due to three causes: 1, the insidiousness of the disease; 2, the inefficiency of the remedies employed, and, 3, the indifference of the patients. In examining asylums or public institutions, hundreds of cases are discovered, the existence of which had not been suspected; parents or other relatives of patients, suffering from granular lids, will often not know that they have sore eyes, when, upon eversion of the lids, granulations are discovered that must have existed for months. It is on this account that our present plan of treatment is so slow, the changes of the conjunctiva being such, at the first visit of the patient, that it is often impossible to effect a perfect cure.

The remedies employed for this disease may be divided into two classes—the metallic and the organic. According to their power as germicides, the former ranks as follows: nitrate of silver, mercury, sulphate of copper, sulphate of zinc, acetate of lead, and alum. Of the second class, the principal ones are balsam of copaiba, muriate of hydrastin, tannin, and jequirity.

True granular lids consist in accumulations of lymph cells and granules in the deeper portions of the conjunctiva, and are probably the result of the invasion of a special micrococcus; after the disease has passed through different stages, it results in cicatrization of the conjunctiva. In the first stages, the metallic astringents are indicated; in the later, the organic ones—especially the balsam of copaiba diluted with nine parts of vaseline is here of excellent service. If there is much swelling of the conjunctiva, the hydrochlorate of hydrastin will answer better than anything else, but its application is very painful, and should be preceded by the use of the muriate of cocaine. In fact, all painful applications to the eye should be mitigated by using a little cocaine a few minutes before the astringents are employed. Tannin is of great service in milder cases.

There are two affections that are frequently classed among granular lids; these are the follicular and the chronic blenorrhagic conjunctivitis. The former depends more or less on a scrofulous diathesis, and should be treated by hygienic measures principally; but a two to four grain solution of bichloride of mercury applied once a day to the exposed conjunctiva is of great service. The latter depends more upon peculiar excrescences of

the conjunctival epithelium, and it is principally benefited by the use of a ten grain solution of nitrate of silver, and later by the use of the balsam of copaiba. If all these remedies fail, and if there is pannus, the use of jequirity is indicated. It should never be used by the general practitioner, for unless its action is carefully watched, it may destroy the eye. Its use *should not be for granular lids, but for pannus.* A very convenient way to use it is to have a trituration of jequirity and gum acacia, which will keep for years, and of which as much as the point of a penknife will hold is to be mixed with a teaspoonful of water; after allowing it to stand in a watch-glass for about an hour, it is ready for use, and may be applied to the everted lids by means of a small brush.

The indifference of the patient, and the consequent carelessness in the use of towels and basins that are used by others, are causes of the transmission of the disease to others, and hundreds of inmates of our large public homes may be affected by a new arrival in a very short time.

DR. O. D. POMEROY, of New York, then presented a paper on *Tests for Unilateral Deafness*, which was read by title.

DR. MERCER, of Syracuse, reported

TWO CASES OF LIGATURE OF THE FEMORAL ARTERY.

The first case was that of a man cut with a butcher's knife. He failed to find the bleeding vessel in the wound. An Esmarch's bandage was applied, the femoral artery tied, and a satisfactory recovery ensued.

The second case occurred in a patient who met with a severe fall, a few days subsequent to which he observed a swelling below the knee, accompanied with pulsation, and swelling of the calf supervened. When admitted into the hospital there was pain in the calf, and a thrill was observed over the swelling, and a characteristic bruit was heard. Pressure over the femoral caused these signs to disappear. Traumatic aneurism was diagnosticated, and the femoral artery was tied in Scarpa's triangle. Swelling has decreased since the operation, and the case is still under observation.

DR. POST, of New York, alluded to a case in which hemorrhage occurred on the second day after an operation on the thigh. The femoral was tied. A few days later hemorrhage recurred. The femoral was found to be firmly occluded, and it was decided that the hemorrhage came from the distal extremity of the artery. Pressure and elevation prevented its recurrence.

DR. F. N. OTIS, of New York, exhibited an

APPARATUS FOR THE REMOVAL OF DÉBRIS FROM THE BLADDER

in cases of rapid lithotrity, which was intended to overcome the dangers of clogging and the complication incident to other instruments. A practical point in the use of the instrument is, that if the receiver be filled with glycerine the discoloration of the urine by blood does not interfere with the observation of the falling débris.

DR. OTIS also presented some points in

THE TREATMENT OF URETHRAL STRICTURE BY COMPLETE DIVISION.

Stricture, he considered to be due in all cases to bands of cicatricial tissue. In several thousand cases he had failed to find a calibre of less than thirty-two millimetres. Once in seventy cases, the urethra had a calibre of forty millimetres. It is commonly believed that the orifice is the smallest portion of the urethra. In forty cases out of fifty, the orifice has been of the same calibre as the canal. He had never seen prostatic enlargement in old men in whom the orifice was not contracted. When it was of the same size the glans was atrophied. He had seen many cases, especially in children, of serious reflex disturbances, which were removed by division of a contracted orifice. Contraction of the orifice is often a cause of spasmodic stricture of the membranous urethra simulating true stricture. In 90 per cent. of cases of true stricture, the stricture is in the anterior portion of the urethra. These anterior strictures should be removed before treating the apparent posterior strictures. The results of the cutting operation he considered permanent—if it be done thoroughly. If the larger instrument cannot be inserted, a smaller one should be used to prepare the way. In regard to the relation of the size of the urethra to that of the penis, his previous views have been confirmed by further experience. In a penis of three inches circumference the urethra has a calibre of thirty millimetres; of four inches, of forty millimetres.

DRS. POST and VANDERVEER endorsed the views advanced by Dr. Otis.

DR. J. E. WINTERS then read a paper on

MATERNAL WET-NURSING AND ITS RELATION TO INFANT MORTALITY,

containing numerous statistics, both European and American, showing the great difference in the mortality of children who are nursed by their mothers and those who are hand-fed or wet-nursed. The average mortality among the latter was claimed to be four or five times as great as among the former. He also claimed that many physical and mental ailments were attributable to the latter.

DR. A. N. BELL, of Brooklyn, endorsed the arguments stated, and cited statistics in their corroboration.

DR. ELY, of Rochester, dissented from the views. He recognized the importance of maternal nursing, but he thought he had seen life prolonged and saved in certain cases by substituting wet-nursing. The statements in regard to the moral qualities of hired nurses being imparted to children nursed by them, he thought could not be proven, and that when the nurse was healthy, wet-nursing did not increase the mortality.

DR. TOWNSEND said that he had experimented on the artificial digestion of cow's milk, but that his results were unsatisfactory. In his opinion, the nurse's milk came next to the mother's.

DR. JACOBI said that a human child thrived better on human milk than on any substitute for it. His experience led him to believe that syphilis among wet-nurses is not so common as might be inferred from Dr. Winter's paper.

DR. MITTENDORF said that the facts are against the statements made in the paper. He is connected with several institutions in which the mothers or wet-nurses suckled the infants and the mortality had decreased since this plan was adopted.

DR. WINTERS, in reply, said that he dealt almost exclusively with facts; that he had had a large experience in

children's asylums; and that some of the speakers, in forming their conclusions, had left out of consideration the nurse's child. He still maintained that artificial feeding was better than wet-nursing.

Dr. W. C. Jarvis, of New York, exhibited *A New and Powerful Battery*, which did not need replenishing for many months. The elements are carbon and zinc, but the composition of the fluid is not given.

Dr. I. N. Goff, of Cazenovia, said that there was a cell manufactured in Cazenovia with chloride of sodium and bichloride of mercury in solution, and it never exhausts itself.

Dr. Vanderveer, of Albany, then made some observations on

ABDOMINAL SURGERY

as practised by Mr. Lawson Tait. He described Mr. Tait's method as observed by himself, and cited illustrative cases. He then reported five cases of abdominal section which he had recently performed, four of which were successful.

Dr. Phelps, referring to the fact that Mr. Tait did not use antiseptics, expressed the opinion that their use was very important.

Dr. Post believed that experience was in favor of their use.

Dr. Vanderveer said that he would not think of performing certain operations without using antiseptic precautions.

Evening Session.

Dr. B. F. Sherman delivered *The President's Address* before a large audience in the Assembly Chamber, taking for his subject,

MEDICAL EVIDENCE.

After some general remarks on the subject of medical witnesses, he referred to medical experts. The definition as follows was accepted from Elwell:

"Extra knowledge in questions of science, skill, trade, business, or other matters requiring special knowledge, qualifies the person thus informed to give opinions in courts of justice." The expert comes to the results, constituting his opinion, which is to be received in evidence, from his own private study, observation, and reflection. This kind of evidence is not of the clear and positive nature or of the value of that of facts, for the same guards cannot be thrown about the opinion of experts as are brought to bear upon the jury. This kind of evidence is, however, of great importance, although to be received with caution.

He then gave a résumé of the history of medical evidence. The importance of this subject to questions relating to life, property, and, what are dearer than either, character and reputation, requires that the physician be prepared to fill the position of medical witness with credit to himself, for, while ignorance and deception may triumph in the sick-room, in open court they can find no protection. The duties and responsibilities of medical witnesses were next taken up. While the study of works on medical jurisprudence is important, the physician needs sometimes more to prepare himself for the duty of formulating and giving opinions that may be received as facts by the court and jury.

The following rules have been given by Dr. C. B. Coventry, of Utica, to be followed by the medical witness, for his own protection, and to give force to his testimony:

1. He should listen attentively to the testimony as to all the facts in the case, and avail himself of every authentic means of forming a correct opinion.

2. He should studiously guard against being biassed.

3. The medical witness is not to take into consideration the influence which his testimony may have on the prisoner or the case under consideration.

4. The expert is called to testify as to the bearing of the testimony given, and must receive as true all evidence which is unimpeached.

5. The medical witness should not assume the province of the jury, as, for instance, saying that a particular wound was the cause of death, but only state what would be the ordinary effect of such wound.

6. The medical witness should have his mind fully prepared before taking the stand. He should keep as cool as possible, and avoid the introduction of any expression, or opinion, not immediately connected with the cause before the court.

The witness should avoid being drawn into discussion while upon the stand, and he should fully comprehend the question before answering. In questions to which a categorical answer is demanded, the witness should ask the court for permission to explain before answering.

Before answering hypothetical questions, the witness should weigh every word, and then confine his answer to the supposed case. If the question involve an impossibility, the witness should decline to answer it.

The speaker closed his paper with a few remarks on apparently simple questions sometimes put by counsel in order to embarrass the witness, such as: What is insanity? What is a wound? When is a wound dangerous to life? Answers to such questions should always be guarded.

A vote of thanks was tendered to Dr. Sherman, and the Society then adjourned to the Delavan House, where the *Annual Dinner* was served.

Thursday, February 5th—Third Day.

Morning Session.

MISCELLANEOUS BUSINESS.

A communication on preliminary education from the New Jersey State Medical Society was referred to a special committee.

On motion, it was resolved to publish the transactions and list of members separately. A resolution requesting the County Societies to hold their annual elections in the first three months of the year, was adopted.

The Richmond County Medical Society presented a communication protesting against the too hasty adoption of the new Code by the State Medical Society.

Dr. S. O. Vanderpoel, of New York, then read a paper entitled

DOES QUARANTINE PROTECT?

The probability of the occurrence of cholera renders this question pertinent. The dissemination of the disease is attributed to the Mecca pilgrims. Its natural home is Calcutta. The measures enforced to prevent its spread are inspection during the period of migration, at an island in the Red Sea, and at the seaport of Mecca.

Owing to sanitary inspection during the past eight years the spread of cholera by the Mecca pilgrims has been prevented. The recent epidemic in Egypt was attributed to the fact that Great Britain had evaded the quarantine regulations. If quarantine be effectively carried out, cholera could not occur. But if cholera once acquire a foothold—quarantine is useless. Then local hygienic measures are to be used. Cholera can only come to this country from Europe.

If a thorough medical inspection of individuals and of clothing coming from distant ports, if suspicious cases be isolated and their excretions disinfected, it is almost impossible for the disease to extend to this country.

If a vessel comes to our shores with cholera on board, it should not be allowed to reach the mainland. Passengers should be disembarked and kept under close observation for ten days, and ten days after the last case has appeared, they may be allowed to proceed. There are only five ports in this country at which steerage passengers are landed, viz.: New Orleans, Baltimore, Philadelphia, New York and Boston. A rigid system of inspection should be begun at once, and it will be our own fault if cholera reaches our shores.

DR. H. I. BOWDITCH, of Boston, fully endorsed the views expressed by Dr. Vanderpoel.

The following resolution was then adopted and ordered to be transmitted to the President of the United States:

Resolved, That it is the sense of the New York State Medical Society that the United States Government should, in view of the probable importation of cholera poison during the present year, promptly take steps to enforce proper sanitary measures at foreign ports where the disease exists.

DR. LEWI exhibited an

APPARATUS FOR IRRIGATING THE ABDOMINAL CAVITY

and all deep-seated wounds. The apparatus is on the principle of the fountain syringe, and warm water does the work of sponges.

The President-elect announced the appointment of the following members as

THE COMMITTEE ON PROGRAMME:

Drs. W. W. Potter, Lewis, and Phelps.

On the report of the Nominating Committee, the following

OFFICERS FOR THE ENSUING YEAR

were then elected:

President.—Albert Vanderveer, M.D., of Albany.

Vice-President.—Alfred C. Post, M.D., of New York.

Secretary.—Wm. Manlius Smith, M.D., of Syracuse.

Treasurer.—Charles H. Porter, M.D., of Albany.

Censors. Southern District—Drs. F. A. Castle, G. H. Fox, David Webster, all of New York.

Eastern District—Drs. Lewi, N. L. Snow, of Albany, and Leroy McLean, of Troy.

Middle District—Drs. Alonzo Churchill, of Utica, J. A. Griffin, of Constantia, and Robert Frazier, of Camden.

Western District—Drs. Theodore Dimon, of Auburn, M. S. Kittenger, of Lockport, and —— Little.

For College of Medicine, Syracuse University, I. N. Goff, of Cazenovia.

Committee on Medical Ethics.—Drs. A. Jacobi, of New York, Arthur Mathewson, of Brooklyn, and J. W. Whitbeck, of Rochester.

Honorary Members.—Drs. J. A. Cabell, of University of Virginia, J. T. Whittaker, of Cincinnati, T. G. Wormley, of Philadelphia, and T. S. Clouston, of Edinburgh.

Adjourned.

CORRESPONDENCE.

NEPHRECTOMY AND NEPHROTOMY.

To the Editor of THE MEDICAL NEWS.

SIR: In answer to a request to furnish me with a brief account of his nephrectomies and nephrotomies, Mr. J. Knowsley Thornton has kindly written me the following reply. His success is so remarkable, all of the nephrectomies being by the ventral incision, that I have taken the liberty to send you his letter for publication. It will be observed that the vesical end of the ureter was fixed outside of the abdomen in seven cases. In some recent discussions at the London Medical Societies theoretical objections were urged against this procedure; but its uniform success is a complete vindication of its merits in preventing the access of the septic material contained in the ureter into the deep wound. I am, very truly, yours,

S. W. GROSS.

PHILADELPHIA, January 31, 1885.

22 PORTMAN ST., LONDON, W.,
January 5, 1885.

DEAR DR. GROSS: I have had eleven nephrectomies, all by abdominal section, and all have recovered and are well. In case 2, I had already performed a lumbar nephrotomy, and failed to improve the condition of the patient by drainage. I utilized the opening for drainage after removing the kidney. Case 6 has not derived much benefit, and has, I think, disease of the other kidney and bladder.

NEPHRECTOMIES.

1. Æt. 7. Congenital hydronephrosis. Ureter a fibrous cord. Weight of fluid and kidney about 7 pounds.

2. Æt. 26. Scrofulous kidney, weighing 18½ ounces. Langenbuch's incision. Ureter brought up and pinned outside.

3. Æt. 58. Calculous pyelitis. Sac weighed 5 pounds, and contained 20 pints of pus. Langenbuch's incision, and ureter pinned outside.

4. Æt. 53. Sarcoma of the capsule, weighing 11 pounds. Ureter dropped, and sloughed and came away through drainage opening in 40 days.

5. Æt. 42. Wound of ureter during previous ovariotomy.

6. Æt. 26. Scrofulous pyonephrosis. Langenbuch's incision, and ureter pinned out.

7. Æt. 28. Left kidney removed immediately on finding that I had cut a piece out of the ureter in attempting to remove a retroperitoneal cystic tumor. Langenbuch's incision, and ureter pinned out.

8. Æt. 49. Calculous pyonephrosis. Large uterine fibromyoma removed at the same operation.

9. Æt. 32. Calculous hydronephrosis. Langenbuch's incision, and ureter pinned out.

10. Æt. 48. Scrofulous or tubercular kidney. Langenbuch's incision, and ureter dropped.

11. Æt. 35. Hydronephrosis. Langenbuch's incision, and ureter pinned out.

NEPHROTOMIES.

1. Æt. 23. Pyelitis. Lumbar incision and drainage. Kidney has returned to normal size, and all pain has gone, and patient in perfect health.

2. Tubercular kidney. Lumbar incision. Pain relieved, but fistula never healed. Patient eventually died of suppression of urine, with disease of other kidney.

3. Æt. 25. Scrofulous kidney. Lumbar incision and drainage. Subsequent successful nephrectomy.

4. Æt. 30. Cysts of both kidneys. Lumbar incision and drainage. Recovery.

NEPHROLITHOTOMIES.

1. Æt. 23. Combined abdominal and lumbar incision. Rapid recovery.

2. Æt. 43. Lumbar incision. Slow recovery, but perfect.

3. Æt. 40. Lumbar incision. Slow recovery, but perfect.

With all good wishes for a prosperous and happy New Year.

Very truly yours,

J. KNOWSLEY THORNTON.

DR. S. W. GROSS, Philadelphia.

NEWS ITEMS.

CHICAGO.

(From our Special Correspondent.)

HOME FOR INCURABLES IN CHICAGO.—The will of the late Clarissa C. Peck (widow of Philander Peck), who died Dec. 22, 1884, was admitted to probate on the 7th inst. The Peck estate is a very wealthy one, and Mrs. Peck's share amounts to nearly $1,000,000. The chief bequest of the will is that of clause 34, which provides for a home for incurables in this city. The bequest of all the property of the testatrix, not otherwise bequeathed, is to this noble purpose. The exact amount of the bequest is not definitely known, but i will exceed $600,000. The sum of money, to be expended in the erection of suitable buildings, in furnishing the same, and in fitting up the grounds, is limited to $125,000. The site of the Home will be in the city of Chicago, or township of Hyde Park, Cook County. A corporate organization is directed to be founded under the statutes of the State of Illinois within two years after the death of the testatrix. Among the trustees and corporators of the corporation occurs the name of Charles Gilman Smith, M.D. (University of Pennsylvania, 1851).

The testatrix alludes to the scope of the institution and the functions of the trustees in the following terms: "While I wish said institution to be open to all incurables without distinction up to the limits of its means and capacity, yet I direct that its Board of Trustees shall have full power to exercise their discretion in regard to the admission of patients, and also to the terms and conditions under which patients shall share in the benefits of said institution, and that said Board of Trustees shall have full and unrestricted power and control in all respects, subject only to the limitation that they shall endeavor to carry out the general policy herein indicated, and accomplish the greatest good possible for poor incurables with the means placed at their disposal."

A word in regard to the character of the testatrix. Mrs. Peck was the widow of one of Chicago's oldest and best-known residents. She has always taken the liveliest interest in all charitable and benevolent enterprises. Mission work, however, in particular, occupied her attention. The bulk of the property is in Government bonds and railway securities. A Home for Incurables has been, for a long period of time, one of Chicago's chief necessities in charitable institutions.

MONTREAL.

(From our Special Correspondent.)

A LARGE CALCULUS REMOVED BY LATERAL LITHOTOMY.—DR. KINGSTON, at a recent meeting of the Montreal Medico-Chirurgical Society, exhibited a huge calculus which he had removed by lateral lithotomy from the bladder of a young man, aged 21 years. The stone was composed of uric acid internally and of phosphates externally, and weighed, when removed, 5 ounces, 5 drachms. Its greatest length was $3\frac{1}{8}$ inches. Its greatest breadth, $2\frac{1}{8}$ inches. Its greatest thickness, $1\frac{1}{4}$ inches.

The stone was removed with considerable difficulty after forty minutes' manipulation. Dr. Kingston remarked that Sir Henry Thompson had lately stated that it was impossible to remove a stone weighing more than three ounces by the lateral operation, yet the stone he showed weighed nearly twice three ounces and had been extracted by the lateral method, the patient making a rapid and complete recovery.

THE HALIFAX, N. S., MEDICAL COLLEGE during the past year has lost three of its professors, and at one time it was thought that it would have to relapse again into a preparatory school, owing to the difficulty in finding suitable men to fill the vacant chairs. But by strenuous efforts on the part of the faculty the present difficulties have been tided over. The school is now in a fairly prosperous condition and has a class of forty students.

THE DANGER OF ASIATIC CHOLERA.—The report of the National Board of Health for the year 1884 was transmitted to Congress on February 2. An outline is given of the movements of the several epidemics of Asiatic cholera which occurred in this country in 1832, 1849, 1854, 1866, and 1873, and particular attention is called to the dangers to which the country is exposed by the recent prevalence of the disease in Western Europe. In the absence of specific appropriations, all investigations have been suspended, and an appropriation of $43,000 is asked for. In addition, it is earnestly recommended that an appropriation of $500,000 be made to be expended in aid of State and local boards of health in preventing the introduction and spread of contagious or infectious diseases. Asiatic cholera, the report says, is a disease which is not limited in its ravages by latitude or longitude, and in the event of its appearance in this country, will require the utmost vigilance to prevent its spread.

MEDICAL FEES IN THE ARGENTINE REPUBLIC.—According to a statement published in the *British Medical Journal* (Jan. 10, 1885), a high pecuniary value is placed upon medical opinion in the Argentine Republic:

"The ordinary charge for a consultation at a medical man's house is said to be two dollars (about 8s.); for a visit, four dollars, say 16s.; for attendance at confinement when all goes well, about £20; but when any special care or operation is required, these fees amount up to hundreds of pounds. Accounts for medical attendance are sent in and paid without remark, which would make the hair of a paterfamilias in the 'old country' stand on end. My friend mentions the following fees as having been lately obtained by doctors who, though of good standing, are not looked on as 'stars:' For extraction of ovarian tumor, £1200; amputation of arm, principal, £600; amputation of arm, two assistants, each, £400; delivery with operation, £400; attendance during typhoid fever, £200; visit by a physician for dropsy, £50; consultation fees, £20 and upwards.

"Much depends, of course, on the position of the patient, but there are sufficient wealthy people to make up for any small fees or gratuitous work which may have to be done among the poorer classes.

"The statements given above are confirmed by another correspondent, who states that a friend of his paid £100 for attendance at the confinement of his wife, and adds that the charges by dentists are on a like magnificent scale, as much as £5 or £6 being paid for stopping a tooth. There, however, appears to be one important condition: before a doctor is allowed to practise in the Argentine Republic, he must pass an examination, and be licensed by the Government Medical Board; and before he can do this he must, of course, be master of the Spanish language. The population of the country is so cosmopolitan, that the more modern languages he speaks, the better will be his chances for success."

THE FRENCH SURGICAL CONGRESS was recently organized by a commission, the members of which are Prof. Trélat, President; Profs. Verneuil, Hourteloup, Chauvel, Bouilly, Ch. Monod, and S. Pozzi, Secretary.

The Commission has rearranged the rules which were discussed last session.

The Congress aims to establish relations between native and foreign practitioners interested in the progress of surgery. The sessions will be held at Paris. The questions to be discussed at the next meeting are:

1. Etiology and pathology of surgical infection.
2. The indications furnished by examination of the urine to practical surgery.
3. The best dressing for wounds to be employed in military surgery during a campaign.
4. Care of cold abscess.
5. Indication for operation in deep wounds of the abdomen.

The Commission of Organization requests papers on the following questions:

1. The comparative value of iliac and lumbar anus in cancer of the rectum.
2. Indications for gastrostomy.
3. Origin and nature of coxalgia.
4. Indications for trephining of the skull in traumatic lesions.
5. Treatment of the pedicle in ovariotomy and hysterotomy.
6. On the operation for tumors included in the broad ligament.—*L'Union Médicale*, Dec. 20, 1884.

NOTES AND QUERIES.

THE FORCE OF REPUTATION.

It was a pathogenetic microphyte,
That had wandered away from its *habitat*,
And pondered (like Hamlet) on this and that,
By introspection to gain some light—

It had held its own midst germicides.
Was it doomed to die when its family right,
Was to terrorize nations and shake their might?
It had killed more men than war, besides.

Its strength was great, its size was small,
But the fungus of hay (which it knew quite well)
Had strutted about as an *Anthrax* swell,
And developed a power that surprised them all.

Whilst it turned the question round about,
A young microscopist in search of fame,
Detected its presence and gave it a name,
And settled the question beyond all doubt.

And proud once more was the Schizophyte,
As it startled the world and set it agog;
It made fortune and fame for the young "Pathog."
And killed the patient—*though only by fright.*

J. M. K.

January 31, 1885.

OPERATIONS ON THE GALL-BLADDER.

REPORTS of surgical operations upon the gall-bladder or ducts, whether previously published or not, are desired for a contribution to an important work; and all facts connected with them will be thankfully received by Dr. J. M. F. Gaston, Atlanta, Ga.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JANUARY 27 TO FEBRUARY 2, 1885.

PROMOTIONS.

SOMMERS, JOHN E., *Lieutenant-Colonel and Surgeon.*—To be Surgeon, with rank of Colonel, Jan. 9, 1885.

SMITH, JOSEPH R., *Major and Surgeon.*—To be Surgeon, with rank of Lieutenant Colonel, Jan. 9. 1885.

KOERPER, EGON A., *Captain and Assistant Surgeon.*—To be Surgeon, with rank of Major, Jan. 9, 1885.

APPOINTMENT.

RAYMOND, HENRY J.—To be Assistant Surgeon, with rank of First Lieutenant, Jan. 12, 1885.

WEBSTER, WARREN, *Major and Surgeon.*—Granted leave of absence for one year on surgeon's certificate of disability.—*S. O. 20, A. G. O.*, Jan. 24, 1885.

TAYLOR, B. D., *Captain and Assistant Surgeon.*—Granted leave of absence for one month, to take effect between March 15 and April 1, 1885; permission to leave Department limits.—*S. O. 10, Department of Texas.* Jan. 26, 1885.

KEAN, J. R., *First Lieutenant and Assistant Surgeon.*—Ordered for duty in the Department of the Missouri.—*S. O. 23, A. G. O.*, Jan. 28, 1885.

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the NEWS *should be addressed to No. 1004 Walnut Street, Philadelphia.*

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

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ORIGINAL LECTURES.

SACCULATED PLEURAL EFFUSION PROBABLY ATTRIBUTABLE TO ACUTE MILIARY TUBERCULOSIS OR SARCOMA.

A Clinical Lecture delivered at the Philadelphia Hospital.

BY EDWARD T. BRUEN, M.D.,

PHYSICIAN TO THE HOSPITAL AND ASSISTANT PROFESSOR OF PHYSICAL DIAGNOSIS IN THE UNIVERSITY OF PENNSYLVANIA.

(Reported by Wm. H. Morrison, M.D.)

GENTLEMEN: This man, forty years of age, was admitted to the hospital about three weeks ago. At that time he was suffering from pleurisy with effusion. There was complete flatness on percussion over the axillary and posterior aspects of the chest, and in these situations there was complete absence of respiratory murmur and of vocal fremitus, while on the opposite side there was exaggerated respiratory murmur. Further examination during the progress of the case led to the belief that the effusion was sacculated. Percussion over the anterior portion of the left chest gave resonance from the clavicle to the base. Although this resonance was not perfect, yet it exhibited a marked contrast to the flatness heard over the lateral portion of the chest. Auscultation over the portion of the chest which gave resonance on percussion, revealed a feeble respiratory murmur and some râles.

Another important physical sign was that the tissues of the intercostal spaces were drawn in with each act of inspiration. This led to the suspicion that adhesions existed between the visceral and costal pleura. The explanation of the mechanism of this sign is as follows: Under normal conditions, when the act of inspiration is performed, the chest distends and the lung expands, applying itself closely to the inner surface of the chest. When a pleural effusion takes place, the chest is placed permanently in the position which it assumes in full inspiration. If, under such circumstances, the pleura covering the lung is attached to the pleura covering the ribs, and inspiration be attempted, the chest wall is carried a little beyond the position of full inspiration, and retraction of the interspaces takes place. This is an important evidence in the diagnosis of sacculated pleural effusion.

There are two other symptoms which were very prominently shown by this patient. One of these is marked shortness of breath. This is more pronounced in this patient than it is in many cases in which the side of the chest is entirely filled. I have shown you such cases on previous occasions, but in those we accounted for the absence of dyspnœa by the fact that the effusion had taken place gradually or had existed for a long time, and the unaffected side of the chest had been able to accommodate itself to the increased amount of work which it was called upon to perform. In this patient, I watched the gradual increase of the effusion, and from the time that it began to form up to the present time the dyspnœa has been very marked.

Having made out the diagnosis so far, the patient was given a mixture containing ten grains of acetate of potassium, five grains of iodide of potassium, and half an ounce of infusion of juniper three times a day. Ten drops of tincture of digitalis were given four times a day to support the heart and to secure the diuretic effect of the digitalis. Blisters were also applied to the back of the chest. I did not give jaborandi or pilocarpine, which I have recommended so highly on previous occasions, because the pulse was always frequent, running about 120 per minute, and was feeble and rather dicrotic, and the patient was generally bathed in sweat. I was not deterred from the use of pilocarpine because the patient was bathed in sweat, for I regarded this as simply a transudation from the skin. Pilocarpine exerts a stimulative action on the skin, causing not only a secretion of watery matter, but also the excretion of solid material. The main reason for avoiding jaborandi or pilocarpine was the evident weakness of the heart, for this remedy exerts a decided depressing influence on the cardiac muscle. Where the action of the heart is already embarrassed, jaborandi may cause an arrest of its movements. I therefore carried out the treatment already mentioned and employed inunctions of oleate of mercury in the axillæ and groins.

Although this plan of treatment was thoroughly carried out, the dyspnœa continued so marked that after two weeks' treatment I considered that further measures were required for the relief of this symptom. I therefore performed paracentesis. As I have told you on other occasions, I should not tap the chest in cases of simple pleural effusion, except in the presence of one of two conditions. These are, such dyspnœa as endangers the safety of the patient and the persistence of effusion without any tendency to absorption of the fluid within a reasonable time, say six or seven weeks. In this case, the dyspnœa was so marked that I performed paracentesis earlier, selecting a point on the left side in the eighth interspace in the anterior axillary line. The needle entered an accumulation of fluid, and two quarts were removed. Moving the needle within the cavity, I felt it impinge on a band of membrane, and thrusting the needle backward, it entered another accumulation of fluid, and a pint of liquid was removed. The diagnosis of sacculated pleural effusion was thus established.

The dyspnœa was relieved to a slight extent by this procedure, but not as much as we had reason to expect, for resonance replaced the flatness on percussion over the axillary region, showing that the lung had expanded. I then searched for an explanation of this unusual state of affairs. The heart was the organ first examined. There was found a slight increase of the area of cardiac dulness. As you know, there are two areas of cardiac dulness; one of absolute dulness, the other of impaired resonance, which extends outside of

the area of absolute dulness, and indicates the portion of heart which is covered with lung tissue. In the present case, this area of impaired dulness merged into the area of positive dulness. Auscultation showed a marked enfeeblement of the heart-sounds, and the first sound especially sounded distant. These signs pointed to the presence of pericarditis. Pericarditis is always a secondary affection, and does not, like simple pleurisy, develop spontaneously. The physical signs taken in connection with the inflammation of the pleura, made me quite positive that there was pericarditis, probably secondary to the pleuritis. I have already stated that the increase in the area of cardiac dulness was not marked, but effusion may be present without any decided extension of the area of dulness, for the tendency of moderate effusions is to occupy the inferior and posterior portions of the sac, pushing the heart upwards and converting the area of impaired resonance into one of dulness on percussion.

Although pericarditis was found, yet this did not account for some of the important symptoms. It did not satisfactorily explain the dyspnœa. It did not account for the bronchitis which was present, and it is not usual to have pleural effusion accompanied with bronchitis. Again, there was a temperature record which, during the past three weeks, has continued between 100° and 102°. It has, therefore, been a very even temperature. A rise of temperature is, of course, expected with the development of pleurisy or pericarditis; but when effusion has taken place, the fever subsides. There was also a rapid pulse, which has always been near or above 120 per minute. Profuse sweating was another marked symptom.

If you have noted the symptoms which have been mentioned, you will find that they are compatible with a disease from which I strongly suspect that this patient is suffering, viz., miliary tuberculosis. This process develops in the lymphatic structures of the lung, and usually is a general process extending throughout the whole lung, affecting the lymph structures around the bronchial tubes, and around the arteries which supply the lung—that is, in the peribronchial sheath. This condition makes the lung more dense, and less capable of performing its function of aerating the blood.

Returning to our patient, let us see what evidence can be adduced in favor of this view. On questioning him closely, we find that the family history is somewhat conflicting. The father and mother are still living, at the age of sixty years. There are two brothers who are perfectly well, but one brother died from pulmonary trouble of some kind at the age of eighteen. We also ascertained that the patient first began to have some trouble with the chest about six weeks before he came to the hospital, that the shortness of breath was a marked feature at that time, and continued to increase until he came under observation. In connection with this, we recall the existence of the bronchitis which was present on admission; for the first time I examined his chest, I heard these fine, moist crackling râles which are still present. These fine, moist râles are very significant. There was also exaggerated respiratory murmur, but no evidences of consolidation. These râles could, therefore, only be due to exudation, the result of inflammation, or of exudation of an œdematous character. If there had been bronchitis, it would doubtless have been improved in the course of three weeks; or if there had been œdema from pressure, some modification in the physical signs would have taken place in the course of three weeks. Effusion, the result of the deposit of miliary tubercles, would, probably, be unaffected by treatment. There is, therefore, strong reason for suspecting that the patient is suffering from the deposit of tubercles in the finer structures of the lung. This theory would explain a number of the symptoms. It would explain the presence of the râles. It would explain the temperature record, for an even temperature is reasonably characteristic of tubercular disease. Occasionally there is high temperature associated with tubercular affections; but this is, as a rule, present only in those cases of miliary tuberculosis associated with some suppurative process in the lungs or pleura. But where miliary tuberculosis develops primarily without the presence of suppurative disease, the temperature, as a rule, is found to be between 100° and 102°.

The dyspnœa would also be explained, for not only is one side of the lung incapacitated by the presence of the pleural effusion, but the other lung is infiltrated with the nodular tubercular matter.

I lay some stress on the pulse in making the diagnosis. In pleurisy, there is usually the ordinary pulse of inflammation, which, while it may be rapid, is not a dicrotic, gaseous, compressible pulse. A gaseous pulse, yielding readily under the finger, is compatible only with some serious blood disease. It is the pulse which is found in fevers. Miliary tuberculosis is really a specific inflammation different from the ordinary simple, frank inflammation which occurs in the pleura or pericardium. I regard the persistent, rapid, gaseous pulse, in connection with the other symptoms, as strongly supporting the theory of tubercular trouble.

Then in regard to the sweating. His head is beaded with sweat at this moment, and his bed is continually soaked. Profuse sweating of this character is not found in frank, simple inflammation of the pleura. This cannot be explained by weakness, for the patient is not particularly debilitated. The temperature has exhibited no malarial characteristics, and the sweating has not occurred in paroxysms. I am confident that constant, profuse sweating is one of the most important symptoms of miliary tuberculosis when taken in connection with the other symptoms. The sero-fibrinous character of the pleurisy, reverses the rule which assigns a fibrino-serous character to pleural inflammation due to tuberculosis; yet this exception is not of cardinal importance.

The patient thinks that he has lost within the last six months at least forty pounds. This is another symptom of importance; because in case the diagnosis of tuberculosis falls, a reserve diagnosis may be substituted of malignant disease of the mediastinum, sarcomatous in character, with secondary simple inflammatory disease of the left pleural sac. Sarcoma occurs in the young and middle-aged. It is frequently attended with pleural effusion, which, although possible as the result of pressure, is at the same time often of inflammatory origin. The later process is developed either by the pressure or by the extension of irritation to the pleural lymphatics from those of the bronchial glands.

The case is a complicated one; and, while I incline to the diagnosis of miliary tuberculosis, I am also decided not to lose sight of my reserve hypothesis.

ORIGINAL ARTICLES.

A CASE OF GUNSHOT WOUND OF THE INTESTINES TREATED SUCCESSFULLY BY LAPAROTOMY, WITH SUTURE OF THE INTESTINES.[1]

By WILLIAM T. BULL, M.D.,
SURGEON TO THE NEW YORK HOSPITAL.

The propriety of exploring the abdomen for gunshot wounds has been amply discussed by many surgeons, both here and abroad. The majority still oppose it, notwithstanding that the very favorable results of abdominal operations for pathological lesions are generally acknowledged. Otis, Sims, Gross, Dugas, McGuire, Kinloch, and Parkes, in this country; Legouest, in France; and Nussbaum, in Germany, have urgently advocated operative interference. But they have been compelled to frame their conclusions from theoretical considerations and statistical data, and have been unable to support their views by the record of a single successful case. In fact, up to the last twelvemonth, I find but two cases recorded in which thorough abdominal exploration was resorted to by laparotomy. Kinloch, in 1882, opened the belly and sutured five pistol-shot wounds in mesentery and intestine. Two other wounds escaped observation. The patient died in thirty hours. And Mr. Lloyd, of the Queen's Hospital, Birmingham, performed abdominal section for suppurative peritonitis three days after a pistol-ball had perforated the small intestine in two places. The intestine was sewed into the abdominal wound and the cavity drained. Death followed in two hours.[2] Last summer, however, Kocher, of Berne, sutured a pistol-shot wound of the anterior wall of the stomach through an incision in the median line, and the patient recovered. The case is briefly reported in the *American Journal of the Medical Sciences*, Oct. 1884:

"A boy, aged 14, was admitted into the hospital half an hour after having received a wound in the region of the stomach from a pistol-shot, aimed at him from a distance of five paces. He was pale, and complained of abdominal pain; the abdomen was swollen and distinctly dull on percussion inferiorly. Pressure on abdomen caused pain. A quarter of an hour later, hiccough, severe epigastric pain, vomiting, pallor, and symptoms of collapse came on. There was tympanitic resonance from the ensiform cartilage to the umbilicus, with complete dulness from the navel downward and in the flanks. The lightest percussion caused severe pain. Three hours after the injury, laparotomy was performed. On opening the abdominal cavity, in the region of the navel, a great quantity of dark blood escaped. The bullet wound was discovered with comparative ease; it was situated on the anterior surface of the stomach toward the greater curvature, in the direction of the fundus. The wound was circular, with sharp edges, and about half an inch in diameter. The bullet could not be found, nor was there any aperture of exit. The edges of the wound were united first with two catgut ligatures, like an ordinary wound, and then a continuous silk suture was applied for the distance of about an inch, so as to invert the serous coat around the wound. Recovery was retarded by an abscess which formed in the track of the sutures in the abdominal wound."

As a further contribution to this subject, I wish to present the following history: and with it I have the pleasure of showing you the patient. It is now three months, lacking a few days, from the time since the operation was performed, and he has quite recovered his usual health.

Case.—Wm. McE., a truck-driver, 22 years of age, was brought to the Chambers Street Hospital at 10 P.M., November 2, 1884, by ambulance from the Police Station of the 10th Precinct. A half hour previously he had been accidentally shot with a pistol of thirty-two calibre, the ball entering the abdominal wall near the navel. On admission he was found to be perfectly conscious, warm, with a pulse at 96, of good volume; temperature 97.8°; respiration 18. He had vomited solid food before admission. He retched frequently, and complained of great pain all over the abdomen, and had tenesmus. The abdomen was tender, but not swollen, nor tympanitic. The wound of entrance was situated one and a half inches below the navel, and one and a half inches to the left of the median line. It was half an inch in diameter, with blackened edges. The bullet could not be detected anywhere beneath the skin. The wound was not probed. A dressing of iodoform gauze and borated cotton was applied after thoroughly washing the skin with a two and a half per cent. solution of carbolic acid. One-sixth of a grain of morphia was given hypodermically.

Twelve hours later (November 3, 10.30 P.M.), when seen by myself, his condition was as follows: pulse 102; respiration 30; temperature 100.2°. Has severe abdominal pain, although he has received twenty-one minims of Magendie's solution (in four injections) since admission. He has slept for about a half hour after each injection. Has vomited a little watery fluid with particles of food. His urine has been drawn and contained no blood. Nothing has been passed per rectum. The abdomen is normal in appearance (save for the wound) and to the touch, but slightly tender all over. Rectum normal. He has received nothing by the mouth but ice, except (by mistake) a cup of milk, which was shortly afterwards thrown up. A cold water coil has been put on the belly, and the dressing made lighter. A probe could not be made to enter the cavity with gentle manipulation.

Seven hours later, seventeen hours after the accident (Nov. 3, 5.30 P.M.), his condition was practically unchanged. He had passed urine voluntarily. The operation was performed with the assistance of Drs. F. W. Murray and C. A. Jersey, and Drs. Mack, Morton, Kirby, and Ten Eyck, of the house staff, Dr. B. Farquhar Curtis, Dr. C. A. Powers, Dr. A. B. Jessup, Jr., and several others, witnessed it. The following antiseptic precautions were observed:

Two large atomizers sprayed the operating-room, for two hours before the operation, with a 5 per cent. solution of carbolic acid. The room itself (which was 25 by 35 or 40) was heated to 80° F., and all the solutions used were warm. For the instruments and hands, 5 per cent. solution of carbolic

[1] Read before the New York Surgical Society, Jan. 27, 1885.
[2] British Med. Journal, March 24, 1883.

acid was employed. The sponges were fresh from carbolic acid, after having been purified with permanganate of potash, and bleached with oxalic acid (Keller's process). The towels, which were not new, were soaked in 5 per cent. solution of carbolic acid for an hour. The catgut was Kocher's; the large silk for the abdominal wound had been boiled in carbolic acid, but the finer (the "No. 1" iron-dyed silk of Snowden), which was used for the wounds of the gut, was not put in carbolic acid till the operation was begun. During the operation, warm water was used for the towels and for washing the sponges, but the final sponging of the cavity was done with 2½ per cent. carbolic acid solution.

A vertical incision two inches long into the bullet wound showed that it was directed in a zig-zag course through the parietes and actually perforated the peritoneum. The usual incision was then made in the middle line from the umbilicus to just above the pubes. On opening the peritoneum, bloody serum without any fecal masses but containing small clots, flowed out freely (at least two pints), floating the coils of intestine into the wound. On the border of the first portion of gut presenting was a slight incised wound of the serous coat only, which was doubtless made by the scissors. It was tied with catgut over an artery clamp. Several coils of intestine, representing three or four feet in length, were then pulled out of the wound and carefully examined. The intestine and mesentery were coated here and there with clots and flakes of fibrin, and these were so adherent that, to dislodge them and see the surface clearly, it was necessary to rub the peritoneum firmly with the sponge two or three times, and this both on its upper and lower surface. The gut was slightly congested and its coils were not adherent. The guts were placed under layers of towels and occasionally drenched with warm water. The first wound, shown diagrammatically in Fig. 1, encountered was about half an inch in diameter, situated midway between the attached and free border of the intestine, and several feet from the cæcum (Fig. 1). The

FIG. 1.

serous coat was clean cut, the mucous membrane lacerated and everted. It bled easily when its edges were separated, but not till then did yellow feces, of the consistency of gruel, escape. (The same was true of all the wounds. The everted mucous membrane acted as a plug.) The abdominal wound was then plugged with large sponges to shut off the cavity, leaving only space enough for the protrusion of a loop of six inches which contained the wound. This was spread out on a towel and emptied of fecal matter through the bullet wound, and held by both hands of an assistant, The mucous membrane was inverted by making traction with two hooks, so as to convert the round hole into a longitudinal slit, parallel with the transverse diameter of the gut. The peritoneal edges were then approximated by five sutures inserted according to Lembert's method. Iodoform was rubbed along the line of suture. (This plan was followed in all the other wounds.) After removing several more loops the cavity of the pelvis was empty and the cæcum, the sigmoid flexure, and rectum and bladder were inspected after sponging out considerable bloody fluid with clots. The bullet was detected at once, lodged in the upper surface of the sigmoid flexure close to its mesenteric border (Fig. 2). It was just beneath the peritoneum, but

FIG. 2.

on removing it the wound was found to enter the lumen of the bowel, which was quite empty. Three sutures closed the wound. The open pelvis was then protected with sponges and more intestine drawn out from under the left edge of the abdominal wound.

FIG. 3.

A third perforation was encountered similar to the first in size, but situated on the upper surface of the gut near its free border, a fourth and fifth close together and separated only by a bridge of the serous

coat, nearly opposite the preceding one, but an inch higher up (Fig. 3), and a sixth one about three inches further on (Fig. 4). These four wounds were all

Fig. 4.

within a length of four inches of the intestine. The two which were so close together had ragged and everted edges, from which the serous coat was stripped off for a distance of one-eighth of an inch. The bowels contained feces and were treated as before described. But the fourth and fifth wounds were converted into one oval slit by trimming off the ragged edges, and twelve sutures were required to close this, while five each were put into the other two wounds. The oval wound made by trimming the two adjacent ones embraced about one-third the calibre of the bowel, and its axis when sewed up was oblique in direction. The others were parallel with the transverse axis.

A few loops of intestine still remained in the cavity. In removing them the seventh perforation was found, several inches beyond the sixth. It was closed with five sutures. The small intestine, except the duodenum, was now all out. A sponge on a holder was passed into the epigastric and both lumbar regions. No blood or foreign matter was detected. The great omentum was not seen.

The pelvis was again sponged out, this time with a 2½ per cent. solution of carbolic acid, the intestines replaced, the lines of suture being inspected as they were encountered. The wound in the middle line was closed with heavy silk sutures, passing through the entire thickness of its walls, and superficial catgut sutures. The incision in the bullet-wound was sewed up in the same way, a drainage-tube being left at its lower end. Iodoform and borated cotton dressing.

The operation lasted two hours. The ether was not well borne. Shortly after commencing, the pulse was 112, the resp. 38; at the end of the first hour, pulse 132, resp. 44; at the end of an hour and a half, pulse 140, resp. 52. At this time the breathing stopped for a moment, and artificial respiration was resorted to, and the legs elevated for the remainder of the operation. At its close, pulse 134, resp. 39. Whiskey ʒj and tr. digitalis were several times injected subcutaneously, and on being placed in bed, a hot-air bath was given and continued two hours. His strength improved rapidly. Six hours later a cold water coil was applied.

Nov. 4.—9 A.M. (fourteen hours after operation), pulse 120; resp. 27; temp. 99½°. He has had cracked ice by mouth, two enemata of Valentine's beef-juice and whiskey, four hypodermic injections of whiskey and digitalis, and seven minims of Magendie's solution in two injections. Has passed three ounces of urine (sp. gr. 1024, acid, no albumen, many hyaline, few granular casts). Complains of slight pain and constant thirst, and has slept little. Has had occasional hiccough, and twice vomited dark green odorless fluid.

9 P.M., pulse 108; resp. 20; temp. 99½°. Has had ice, Vichy water in teaspoonful doses, two nutritive enemata, and fifteen minims of Magendie's solution in three injections. Vomited the same green matter four times, and had pain afterward, but at no other time. Has slept several hours. A few teaspoonfuls of beef peptonoids, ʒss to water ʒj, given by mouth, but discontinued. Pupils normal; tongue moist, but coated; abdomen tender, but not swollen.

5th.—9 A.M., pulse 92; resp. 26; temp. 99½°. Had by mouth Vichy and hot tea with milk, but no sugar (in teaspoonful doses); by rectum two enemata of Valentine's beef-juice and whiskey; hypodermically twelve minims of Magendie's solution. Has slept several hours, and on awaking is bright and cheerful, complaining only occasionally of pain. Urine, thirty ounces. 6 P.M., pulse 92; resp. 20; temp. 101°. Has had two enemata of beef peptonoids and whiskey. All thus far have been retained. Fifteen minims of Magendie's solution in two injections. Vomited twice a brownish fluid. More abdominal pain and slight swelling and tenderness. Wounds normal. Ice-water coil continued. Rectal tube introduced to relieve tympanites. Urine, nineteen ounces.

6th.—9 A.M., pulse 80; resp. 17; temp. 100½°. Has had beef-tea, Vichy, and hot tea by mouth, two enemata, and fifteen minims of Magendie's solution in two injections. Vomited twice, and had desire to evacuate bowels. Still has pain. Abdomen tender, slightly distended. 6 P.M., pulse 84; resp. 18; temp. 101°. Drainage-tube removed.

7th.—9 A.M., pulse 84; resp. 17; temp. 100°. In the last twenty-four hours he has vomited three times a small quantity of brownish fluid. Alimentation as before, with the addition of small dose of dry champagne. Fifteen minims of Magendie's solution. He has slept much, but is restless when awake, and has little pain, but desires to have a passage. Tongue moist. Abdomen less distended. 6 P.M., pulse 87; resp. 17; temp. 102°. Fifteen minims Magendie. Vomited twice; irritable. After an enema of soap and water, a free watery, ill-smelling movement, containing small fecal masses.

8th.—9 A.M., pulse 84; resp. 17; temp. 101½°. 6 P.M., pulse 84; resp. 24; temp. 102°. Thirty minims Magendie. Nourishment as before. But two enemata. There have been three evacuations similar to the first one: fluid, but not watery; fetid, and containing little flakes and masses of fecal matter. Vomited three times. Suppuration about two of the sutures in the abdominal wound.

9th.—9 A.M., pulse 82; resp. 18; temp. 101°. 6 P.M., pulse 76; resp. 18; temp. 101°. One thin movement. Vomited brandy and soda, and also

bismuth and opium powders, but has retained plenty of peptonized milk, champagne, and beef-tea. Less pain. The wound about the sutures is swollen; and on taking out several of them, there is found a collection of pus external to the peritoneum. It communicates with the suppuration about the track of the sutures. The pus was not decomposed. All sutures are taken out but two or three upper ones. Wound stuffed with carbolized compresses. Cold water coil is withdrawn. The bullet wound is likewise split open through a part of its extent.

10th.—9 A.M., pulse 84; resp. 20; temp. 99½°. 6 P.M., pulse 84; resp. 18; temp. 100°. Two dark-colored passages of pasty consistence. Vomited once or twice very small quantities of contents of stomach. Occasional pain. Abdomen not swollen. The wound gapes widely, but is granulating except at one or two points. Urine similar in character to that passed before. It averages forty ounces per day. Tongue natural. Six minims of Magendie in twenty-four hours.

11th.—9 A.M., pulse 82; resp 20; temp. 99°. 6 P.M., pulse 80; resp. 22; temp 101°.

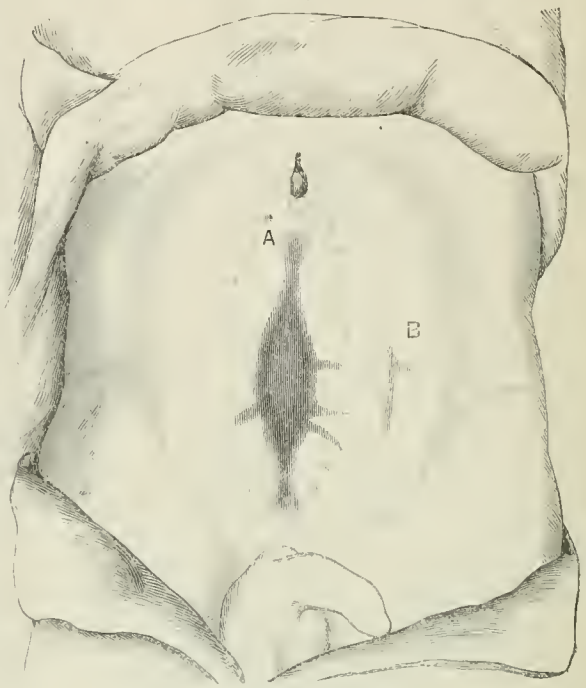
12th.—9 A.M., pulse 80; resp. 24; temp. 98½°. 6 P.M., pulse 86; resp. 20; temp 100°. There have been three movements like the last mentioned in the last forty-eight hours. No vomiting nor decided pain. He complains only of being hungry, and of the discomfort of lying on the back. Abdomen normal but for the wounds, which are granulating.

From this time the patient's convalescence was uninterrupted. The passages became less frequent and more solid; and from the fifteenth day, they were about natural. He vomited on the eleventh, and twice on the twelfth day, but never afterward. His appetite was excellent; and on Thanksgiving day, twenty-four days after the operation, he ate the sumptuous repast provided, including plum-pudding. Several sinuses which formed in the granulating wound required slitting up, and a large number of skin grafts was applied on two occasions.

After the carbolic acid, bals. Peru., and, later, iodoform dressings were employed. At the end of eight weeks, the large wound was cicatrized. He was discharged Dec. 31. The cicatrix was firm, but it is growing softer, and he is wearing a strong abdominal supporter. The functions of the alimentary canal are peformed normally, and he feels—and apparently is—in good health. The urine, however, presents the same morbid products that it did during his treatment.

I am not prepared at the present moment to do more than submit for your consideration the facts contained in this history. To discuss further details, such as the indications for operation, the technique, and the antiseptics and the proper management of all varieties of visceral wounds, would be beyond my present purpose. I hope to have an opportunity for that at a later date, when I shall report a case of wound of the liver, with great hemorrhage, in which the patient died before the operation was completed. But I desire now to call attention to the fact that operative interference for gunshot wounds of the abdomen has been put to a practical test, and that it has been successful. And I hope that other members of this Society may share my conviction, that this plan of active treatment is now justified by this success, and that it should be adopted (within proper limits) to the exclusion of the "let alone" policy.

FIG. 5.



Showing cicatrix of abdominal section (A) and that of the bullet wound (B), three months after operation.

A NOTE ON THE ABSORPTION OF SALICYLIC ACID.

BY N. A. RANDOLPH, M.D.,
AND
SAMUEL G. DIXON,
OF THE UNIVERSITY OF PENNSYLVANIA.

IN view of the fact that the internal administration of salicylic acid and its salts is not infrequently capable of producing or increasing gastric irritability, the advantages of inducing its cutaneous absorption are at once apparent. By the application to the uninjured skin of salicylic acid, rubbed up in a thin paste with olive oil, we have been able to demonstrate the presence of the drug in the urine in each of seven cases in which such application was made. In six of these cases, an existing rheumatic attack was relieved by the application. Of these, in one case only did the application give a negative result.

CASE I.—Man, æt. 30, of rheumatic habit, who had been suffering for three days from rheumatic pains and stiffness in the right thigh. The pain had grown daily worse, until motion of the limb became almost unbearable. He was ordered to remain in bed, and twenty grains of salicylic acid were rubbed into a paste with olive oil, and gently smeared in each axilla. Four hours thereafter, the patient felt some-

what better; and the urine examined at this time showed the presence of the drug upon the application of the ferric chloride test. At noon, on the following day, the patient reported himself as entirely well.

Case II.—Female, æt. 60, suffering from frequently recurrent and severe rheumatic pains in the shoulder. The method of treatment used in the preceding case was here employed, and the patient reported marked relief on the following day, at which time, also, the drug was found in her urine.

Case III.—Female, æt. 28. Rheumatic pains in arm and shoulder. Application as in previous cases. The drug here proved a decided irritant to the very sensitive skin, and was removed in some fifteen hours. Results negative. Urine not examined. Pain and stiffness subsequently disappeared after the exhibition of large doses of sodium salicylate internally.

Case IV.—Male, æt. 25, frequently subject to rheumatism in the left shoulder, and always relieved by the internal use of sodium salicylate; was relieved during a similar attack by the method already described.

Case V.—Male, æt. 34, suffering with severe rheumatic pains in left shoulder.

Thirty grains of salicylic acid were rubbed up in olive oil, gently smeared upon the left side of the abdomen, and covered with rubber cloth. Here, as in the other cases, the urine was tested for the drug in question at the time that the application was made, with negative results. Urine passed in one hour and ten minutes thereafter gave, upon the application of the ferric chloride test, the response characteristic of the presence of salicylic acid; and this reaction was observed in several samples of urine from this patient up to the thirty-sixth hour after the application was made. In twelve hours, the rheumatic symptoms were greatly relieved, and they entirely disappeared within twenty-four hours.

Case VI.[1]—Dr. F., æt. 29. Rheumatic swelling of right knee, the circumference of which was one-third greater than that of its fellow. Patient gave history of previous persistent rheumatic attacks. Salicylic acid and oil (℥ij to f℥j) were spread upon absorbent cotton, and the whole gently wrapped around the knee, which was here too acutely sensitive to permit of any friction. No internal medication was used. In twenty-four hours there was marked reduction both of pain and swelling, and within three days the patient had entirely recovered. During the treatment, swelling commenced in the knee of the opposite side, but disappeared under the same local treatment pursued with the joint first affected. The urine was several times examined during the treatment, and salicylic acid found therein.

This case is of especial interest as indicating that, superadded to the constitutional impress of the drug, there was a specific local effect at the place of its application.

We do not consider that the results of the six experiments here cited would warrant us in an unqualified commendation of this method of exhibiting salicylic acid, but we feel fully justified in suggesting that a fair trial be given it by the medical profession.

Biological Laboratory of the University of Pennsylvania,
February 7, 1885.

[1] We are indebted for the report of this case to the courtesy of Dr. William Gray, who pursued the method indicated at our suggestion.

THE SPINAL ARTHROPATHIES.

A CLINICAL REPORT OF SIX CASES OF CHARCOT'S JOINTS.[1]

By A. SYDNEY ROBERTS, M.D.,

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Case I.—M. K., male, æt. 41, referred to the New York Orthopædic Dispensary from St. Luke's Hospital on May 5, 1879. Hereditary history unusually good. He is a moderate drinker. Health excellent until manifestation of present joint trouble. Married, and the father of five healthy children.

Condition on date of entry: A large nodular tumor was found over the left hip-joint, oval in

Fig. 1.

shape, the long axis of which corresponds with line of Poupart's ligament (Fig. 1). Transverse diameter of normal limb over hip-joint, 22 inches; of affected limb at same point, 30¼ inches. No muscular atrophy detected by measurements of circumference. Left limb 1⅜ inches shorter than its fellow; meas-

[1] Read, by invitation, at a meeting of the Neurological Society of Philadelphia, January 26, 1885.

urements made from the umbilicus. External iliac fossa of left side filled with osteophytes, which add to bulk of tumor. The ligamentous structures about the joint seem entirely destroyed; motion of limb abnormally free in all directions. Head of femur probably absorbed or greatly atrophied. Limb abducted and rotated outward. What appears as the head of the femur is anterior to its normal position, lying under a "shed" of bone, built out from the pelvis, which covers its atrophied extremity like an umbrella. When the patient flexes the limb, the upper extremity of the femur glides forward until it catches under this shed of provisional bone, which, acting as a fulcrum, allows the patient to flex and rotate the limb with ease.

A thorough examination of the patient for evidence of a central lesion, revealed the absence of numbness of limbs, of pain, or of constricting bands; sensation slightly impaired on left side. On right side, reflex action increased on titillation of soles; none on left. No tendon reflex in either limb. Sways with "closed eyes test."

Condition eighteen months later: The patient presented all the marked symptoms of locomotor ataxia. Two years from date, upon which the above notes were recorded (May 5, 1879), he is confined to bed, with complete loss of muscular coördination.

Remarks.—The case exhibits an arthropathy existing four and a half years prior to the development of active tabetic symptoms, and shows a tendency, from early stages, to the formation of osteophytes about the joint, with early atrophy of the upper epiphysis of the femur.

At no time during the progress of the lesion were there developed reflex neural symptoms that would point to joint inflammation.

The joint lesion (swelling and tumefaction) diminished as the active symptoms of ataxia advanced. Provisional callus was thrown out about the atrophied extremity of the femur as a substitute for the destroyed acetabulum.

Case II.—O. P., male, æt. 44. Registered as an out-patient in the New York Orthopædic Dispensary on January 29, 1879. The following notes were recorded.

Hereditary History.—Parents living and healthy; one brother died of phthisis. Patient is married; has three children, two in excellent health; the third has an intrapelvic abscess. (Subsequently died of amyloid degeneration of the kidneys. Patient has had to work very hard, with considerable mental anxiety; no other known cause for present disease.

The left knee and ankle (Fig. 2) are enlarged, the latter more so relatively than the knee. The patient states that seven years ago, while working, a heavy box fell upon him, injuring the ankle. The joint became swollen, and he was "laid up for two months." He recovered, and suffered no inconvenience for one year; the swelling again returned in the same ankle and involved the entire leg. At this time he was incapacitated from work for three months; he recovered, and has had no active joint symptoms since. Has never had an abscess about the joint.

The urgent symptoms at present examination are ose of locomotor ataxia. He cannot walk without staggering, and when attempting to do so in the dark, or with closed eyes, falls. Suffers from ataxic pains in the right leg and arm. Is uncertain in guiding his finger to the tip of his nose, with eyes closed, or in

Fig. 2.

putting his heel on a designated spot. Sensation impaired in right hand and arm: has difficulty in buttoning his coat with that hand. When standing, or walking in his bare feet, he feels as though he were on cushions; vision unimpaired (eye-ground not examined).

On February 4, 1879, Dr. Cloves Adams saw the patient in consultation, and thought him to be suffering from locomotor ataxia in the third stage, with osseous changes in left ankle and synovitis of both knees.

The patient returned to the Dispensary in September of the same year, with a marked elastic swelling of the right elbow-joint (Fig. 3).

A year later (November, 1880) he was referred to the clinic of Dr. E. C. Seguin. He again applied to the Orthopædic Dispensary on February 14, 1881. The ataxic symptoms had advanced; he walked with extreme difficulty. The condition of the joints remained about the same as when last examined, now four months ago.

During November (1881) the patient was critically examined by Dr. S. Weir Mitchell, and pronounced to be in the third stage of locomotor ataxia, with spinal arthropathies of the right elbow and left ankle-joints. It was noted that the circumference of the elbow tumor had materially diminished since the last measurements were recorded (decrease of two and a half inches).

Remarks.—The joint enlargements in this patient presented three characteristic peripheral ataxic conditions:

1st. At the knee-joint synovial irritation, indicated by the physical signs of a chronic synovitis although

at no time during its course was there evidence of inflammation.

2d. A characteristic doughy, nodular ataxic joint tumor of the elbow, largely composed of osteophytes and excessive synovial secretion.

Fig. 3.

3d. Hypertrophy of the lower epiphyses of the tibia and fibula, with but slight synovial irritation.

The peripheral manifestations at the knee and ankle accompanied the earlier symptoms of ataxia; the elbow tumor entered abruptly upon the second stage of the sclerosis. I am indebted to my friend Dr. Newton M. Shaffer, of New York, for the privilege of reporting the above notes.

Case III.—J. H., male, æt. 45; was admitted to my wards in the Philadelphia Hospital on April 3, 1883. The following notes were recorded: A vigorous, well-nourished man, with little personal knowledge of his family or their history. Knew his parents lived to advanced age, but thought both of his brothers had died, and likewise two sisters. Acknowledged to being strongly addicted to the use of alcohol. He thought his present trouble arose from a "dissipated life and constitutional syphilis."

Two years ago, after a debauch, his attention was directed to painful swelling of his right great toe. This lasted a few days, and as the pain and swelling of the toe subsided, the right ankle-joint enlarged. This swelling slowly and painlessly increased, and three months from its onset, the same condition appeared in the left ankle-joint. Without especial discomfort to the patient, this joint enlarged. He continued drinking to excess, and was admitted to the hospital in a state of chronic alcoholism.

An examination two weeks after admission, when all traces of alcoholism had subsided, gave evidence by the following facts of a central lesion: He had suffered from constricting pains about the abdomen, and occasional darting pain in the region of the hips and thighs for the past year. He also experiences considerable difficulty in walking, especially at night. At present, he has a staggering gait. Absence of patellar reflex in both limbs: sways and falls with "closed eyes test," and has difficulty in finding tip of nose with forefinger when eyes are closed.

The metatarso-phalangeal articulation of the right great toe is ankylosed. Both ankle-joints are enlarged apparently by a diffuse hypertrophy of the epiphyses of tibia and fibula. This increase has almost doubled their normal circumference. The subcutaneous tissues are slightly œdematous. The capsules of ankle-joints are distended and elastic.

When first admitted, the tissues about the ankles and legs were swollen, presenting the appearance of diffuse cellulitis. This subsided in a few days from rest and local treatment.

My colleague, Dr. C. K. Mills, saw the patient with me in consultation, and confirmed the diagnosis I had made—of posterior spinal sclerosis, with accompanying arthropathies at ankle-joints.

Remarks.—The joint hypertrophy had preceded any active symptoms of ataxia. The character of the joint enlargement was that of bony hypertrophy, without a tendency to the formation of osteophytes or to nodular irregularity of contour. The possibility of rheumatism or malignant disease was considered and dismissed. A thorough physical examination failed to detect any of the characteristic reflex neural symptoms of an epiphyseal ostetitis.

The history of the progress and course of the ankle-joint hypertrophy, together with the evidence of a central lesion and the negative physical signs of local joint inflammation, all confirmed the diagnosis of an arthropathy of spinal origin.

Case IV.—Dr. A. A. Y., male, æt. 65, resident of Hammonton, N. J. Examined the patient with Dr. S. Weir Mitchell on January 16, 1885. For the substance of the following notes I am indebted to Dr. Woodnutt.

History of patient: Family history excellent. He had always been strong and healthy during youth and up to 1865, though a hard-working farmer. An army life, and three years of extreme exposure prior to the close of the war, found him suffering in 1865 from sharp, wandering pains in the upper and lower extremities; never noticed, however, in the articulations. Loss of power followed in the right leg. Three years later suppurative arthritis attacked the metatarso-phalangeal articulation of the right great toe, and last phalanx of left ring finger, sequestra coming away in each instance.

During 1870 the patient first noticed an œdematous swelling of the right elbow; following shortly upon this, the wrist-joint of the same arm gradually and painlessly enlarged. Then a distention of the capsule of the right knee-joint succeeded. The enlargement of the latter articulation was more rapid than either the wrist or elbow. Rheumatic pains in the joints accompanied the swelling and deformity.

The left limb has been comparatively exempt from pain. Recently, however, the capsule of the knee-joint has become distended and elastic. The elbow tumor has diminished somewhat in circumference during the past four years.

During the past year the distal phalanx of the right index finger has gradually atrophied, without inflammation, and is entirely wanting. The nail and finger end are normal, though somewhat shortened. Pain at present is chiefly in both feet, paroxysmal and erratic, often attacking corresponding points on the legs.

The present appearance of the right elbow and left knee-joint (Fig. 4) enlargements exhibit an irregular

Fig. 4.

nodulated hypertrophy, bearing no resemblance to normal joint outline, and consisting chiefly of osteophytes and abnormal increase of synovial fluid. Motion preternaturally free in all directions; structure of joints apparently entirely destroyed.

Remarks.—The joint lesions first appeared in this patient after ataxia had become established. The appearance of the affected elbow and knee is that of an enormous nodular hypertrophied mass of bone, doubling their normal circumference, associated with synovial distention of the capsule. Osteophytes readily movable within the capsule, and varying in size from a pigeon's egg to that of a turkey.

The atrophy of the distal phalanx of the right index finger is especially to be noted, it being the first instance of complete absorption of the diaphysis of bone that I have had an opportunity of observing.

Case V.—W. H. McC., male, æt. 38, married. Admitted to the Orthopædic Dispensary of the University Hospital in July, 1883.

Hereditary history excellent; no evidence could be obtained of articular disease, rheumatism, or phthisis in any member of his family. He presented at date of examination the appearance of a healthy well-nourished man. Has always worked industriously at his trade of plumber. A moderate drinker. He had constitutional evidence of syphilis, following a chancre contracted in 1863.

The patient attributes the present enlargement of the right ankle-joint to an injury received while working in a cramped position. Following this strain, the ankle became suddenly discolored and swollen, bursting the buttons from his shoes. He was incapacitated for work during the succeeding four days; at the end of a week the discoloration and swelling had about disappeared. His attention was then first directed to a bony enlargement of the right ankle-joint. This slowly and painlessly increased in size without any appreciable interference in locomotion. At present examination the enlargement resembles a simple hypertrophy of the lower epiphyses of the tibia and fibula. The outline of the joint is globular, with slight elasticity of capsule. No pain or reflex muscular spasm.

Record of Spinal Symptoms.—Complains of darting pains about hips. Has difficulty in walking at night. Sways with closed eyes. Complete absence of patellar reflex on both sides. Dr. Horatio C. Wood saw him with me in October of 1883, and pronounced him ataxic.

Remarks.—This case presents an arthropathy that apparently followed a direct traumatism to the affected limb. From careful interrogation, I determined that the acute swelling, and ecchymosis resulted from rupture of a varicose vein, inasmuch as these were numerous, and greatly engorged about the affected ankle. This first attracted his attention to the ankle, the deeper bony growth being detected when the active symptoms of subcutaneous swelling had subsided.

The hypertrophy of the joint has increased the circumference four and a half inches over its fellow.

Case VI.—A specimen of shoulder-joint arthropathy, lately removed at an autopsy held upon the body of a well-marked ataxic, has been referred to me by Dr. S. Weir Mitchell, to embody in this report. The joint had become suddenly and painlessly enlarged in the later stages of the central lesion. It presented ante-mortem all the characteristic symptoms of a tabetic arthropathy: distention of the capsule, abnormal mobility, and the presence of osteophytes. The joint, upon examination, presented the following:

1st. Cartilage covering head of humerus eroded; that upon glenoid cavity irregularly thickened.

2d. Anterior margin of glenoid cavity worn away, allowing the head of bone to rest in position of forward dislocation.

3d. Osteophytes abundant about junction of capsule with anatomical neck. Marked relaxation of ligamentous structures, and distention of capsule.

4th. General hypertrophy of epiphysis, somewhat nodular at margins. Evidences of hydrarthrosis.

The practical deductions to be drawn from a clinical study of the above somewhat anomalous cases, may be briefly summarized as follows:

Period of Development.—1st. The tabetic arthropathies may occur independently, or precede the active symptoms of locomotor ataxia.

2d. They occasionally develop suddenly, late in the course of a posterior spinal sclerosis.

Nature of Lesions.—The peripheral expression of central nerve irritation is characterized by the following changes found in the structure of the various articulations.

1st. A chronic asthenic hyperæmia of the synovial membranes; a hydrarthrosis.

2d. An interstitial atrophy of the epiphyses.

3d. A fungous or rarefying epiphyseal hypertrophy.

4th. The formation of osteophytes and bony stalactites.

These various joint expressions characteristic of the spinal arthropathies may exist separately; but are usually combined in the same subject.

Differential Diagnosis.—They may be readily distinguished from the common inflammatory lesions of the epiphyses by the total absence of the reflex neural phenomena—*i.e.*, of pain, both reflex and local, the apprehensive state regarding joint movements, and the reflex or tetanic spasm of the muscles, always associated with joint arthritis. Abscess is never directly associated with the arthropathies, unless incident upon direct traumatism.

They are more difficult to differentiate from malignant disease of the articulations; but a careful inquiry into the history and course of the lesion, and the presence or absence of central disturbance, are our most reliable guides.

Course.—The progress of the arthropathies is essentially chronic. Occurring, not infrequently, early in the history of the tabetic lesion, they slowly increase, with occasional exacerbations, and years elapse before fully matured. A rapidly developing arthropathy may be associated with the later stages of an ataxia. Their course is self-limiting, though never reparative.

MEDICAL PROGRESS.

Lacunar Caries of the Handle of the Malleus.—Dr. S. Moos, in the *Zeitschr. für Ohrenheilkunde*, Bd. xiv., describes caries of the tympanic bones as a condition frequently existing in suppurative inflammation of the middle ear. The malleus is the bone most frequently attacked, next in order the incus, and least frequently the stapes. The cause of the most frequent implication of the malleus is connected, according to the investigations of Dr. Moos, with the action of the tympanic bloodvessels and their relation to the handle of the malleus. The latter is chiefly nourished by the mucous membrane of the tympanic cavity, which covers also the inner surface of the tympanic membrane, while the outer cuticular layer receives but a small supply of blood. The inner surface of the tympanic membrane, the mucous membrane layer, must therefore be attacked first of all, if caries originate in the malleus. If now, in consequence of a widespread inflammation of the tympanic cavity, the mucous membrane covering the malleus be destroyed, then the vessels of the membrana propria, and finally the periosteum itself, will be undermined and detached. After the loss of these tissues, a granulation rich in vessels spreads in all directions, and finally there remains in the centre of the handle the only remnant of osseous tissue. The caries may still further extend, and at last the head of the malleus may alone remain, held by the ligaments in the upper part of the tympanic cavity. In the occurrence of caries of the handle of the malleus, the destruction of the osseous tissue is principally caused by the production of granulation tissue, and only in the smallest degree by giant cells, by which lacunar cavities are formed at the boundary of the healthy and diseased bone. Moos refers to Pommer's researches, and concludes on the basis of his investigation that granulation tissue plays as great and usually a greater part in the formation of resorption lacunæ than the giant cells, which, according to Pommer, are to be considered the only resorptive organs of the osseous tissue.—*Deutsche med. Wochenschr.*, Jan. 1, 1885.

Incompatibility of Sulphate of Quinine and Potassium Iodide.—Rabuteau, in the *Union Pharm.*, 1884, shows that the sulphate of quinine administered with the iodide of potassium causes anorexia, nervousness, and general malaise. These effects are analogous to those occurring if an iodide containing iodate of potassium is taken, the acid of the gastric juice in this case liberating free iodine. According to Rabuteau, the same result obtains from a mixture of iodide of potassium and sulphate of quinine, and the liberated iodine is the cause of the observed disturbances. He further observes that very serious or even fatal results may occur from their use during menstruation.—*Gazetta degli Ospitali*, Jan. 4, 1885.

Suprapubic Cystotomy.—D. Rohmer, in the *Annales des Organes Génito-urinaries* for Jan. 1, 1885, after a lengthy discussion upon suprapubic cystotomy in hypertrophy of the prostate, concludes as follows:

1. Suprapubic cystotomy is an operation of great importance in patients with prostatic disease, not only in cases of emergency, but also as a curative procedure in case of absolute retention of urine, incurable by other means.

2. To be efficacious in such cases, the operation should be practised seasonably—*i. e.*, before serious lesions of the urinary organs have been established or become incurable.

The Surgery of Scrofulous Glands.—Mr. T. Pridgin Teale, in a recent lecture on the surgery of scrofulous glands, summarizes his treatment as follows:

1. That our guiding principle should be, in the words of Dr. Allbutt, that, "whenever septic material is contained in the system, we rest not till it be expelled, and its burrows laid open and disinfected."

2. That in a very large number, in a majority, of these instances of scrofulous neck which have come under my care, there was no evidence of any constitutional taint or weakness. The origin of the ailment was clear and defined, bad drains in many instances, scarlet fever,

mumps, etc. The cases were often isolated instances in families free from any tendency to constitutional disease. Health was restored to perfect vigor after the destruction of all degenerate or septic material. The removal of the condemned glands was *very rarely* followed by any further enlargement of glands, or by the need of any repetition of operation.

3. That surgical interference is not only justifiable, but demanded, in the following conditions:

(*a*) Whenever a sinus resulting from a degenerating ymphatic gland exists.

(*b*) Whenever fluid—*i. e.*, pus—can be detected in connection with an enlarged lymphatic gland.

(*c*) Whenever there are enlarged glands accessible to surgery in a patient in whom a caseous or a suppurating gland has been already discovered.

4. As to glands which, not having suppurated, nor having been proved to be caseous in any one instance, are an eyesore, or are accompanied by lowered health, the question of removal may be considered an open one. Probably in some instances the best method of treatment will be by "cautery-puncture."

Of this method Mr. Teale has had no experience, but it is spoken of most favorably by Mr. Treves in his work on *Scrofula and its Gland Diseases*, page 193, and he has employed it extensively.

As to the surgical treatment of these cases, the following are Mr. Teale's conclusions:

1. That surgery can secure the healing in a very few weeks of gland cavities and sinuses, even though they have existed for years, and of wounds resulting from the removal of caseous and suppurating glands.

2. That in dealing with sinuses, gland abscesses, and decayed or semi-decayed lymphatic glands, the action of the surgeon must be vigorous and thorough.

3. That the visible abscess, which would often be called a struuous suppurating gland, is, as a rule, merely a subcutaneous reservoir of pus, its source a degenerate gland being, *not subcutaneous*, but *subfacial*—*i. e.*, under the deep cervical fascia, and sometimes even submuscular, the communication between the two being a small opening just large enough to admit a probe or director.

4. That it is utterly futile to incise or puncture such a subcutaneous abscess dependent upon a degenerate gland which lies beneath the deep fascia.

5. That when a damaged or suppurating gland has been got rid of before the overlying skin is thinned by advancing suppuration, the resulting scar is insignificant, and not an eyesore.

6. That in almost every instance in which the cure of the disease by operation was followed by a depressed cicatrix, there had been previously a sinus discharging for months, or even for years.

7. That in dealing with a sinus the channel should be enlarged by the knife or by "Bigelow's dilator" and the whole of its granulating surface should be scraped off. Where a sinus is shallow and covered by thin blue skin, this imperfect covering should be rasped away by the scraper, and any cutaneous overhanging edges should be trimmed off by scissors.

8. That in dealing with a sinus or an abscess the surgeon should not rest content until he has discovered and eradicated the gland, always remembering that if it be not obvious, there is sure to be a small track leading through the deep fascia to the missing gland. This opening should be enlarged so as to admit the spoon of Lister's scraper.

9. That when a gland has not suppurated, and is movable, it can be removed by very little dissection, almost by enucleation, and that, as the healing takes place rapidly, the resulting scar is very faint and insignificant.

10. That when a gland has suppurated, and generally when it has become caseous, the capsule should be freely opened, and the contents should be eviscerated by Lister's scraper. This is sometimes easy, the evisceration leaving the stiff capsular case virtually cleaned out. Sometimes it is very difficult to get rid, even by most vigorous use of the scraper, of the tough living stump of gland toughly adherent to the capsule. At times it is well to dissect this remnant away by the scalpel, if the risk of injuring important structures be not too great.

11. That sometimes, after such an evisceration leaving an empty capsular cavity, the finger detects in this wall a bulging of a contiguous gland. This should be pricked through the wall of the cavity, and so reached and eviscerated. In this way in more than one instance I have emptied from one external opening a group of three or four glands massed together, in close contact, and suppurating or otherwise broken down.

12. That the following is a good plan of after-treatment. The cavity having been well cleansed by carbolic acid solution 1 in 40, or by carbolized glycerine 1 in 10, is charged with iodoform. An India-rubber drainage-tube, reaching to the farthest recess, is fixed to one extremity of the wound, the edges of which are carefully and accurately brought together by fine catgut suture. The wound may then be covered by a pad of salicylic silk, or some other absorbent antiseptic substance. At the end of a week the India-rubber drainage-tube should be removed. Where a gland and its capsule have been completely enucleated or dissected out, it is not necessary to renew the drainage-tube. In all other conditions the India-rubber tube should be replaced by one of gilt wire, which should remain until there is reason to suppose that all is healed except the track of the tube. This period will vary from three to eight or ten weeks.—*Med. Times and Gaz.*, Jan. 10, 1885.

THE USE OF THE SHARP-EDGED SPOON IN PUERPERAL ENDOMETRITIS.—DR. PLONIES, in the *Centralb. für Gynäkologie*, after citing several cases of puerperal endometritis in which the cutting spoon was used, says: The list of the preceding cases is not sufficiently extensive to enable a decisive verdict to be given concerning the application of the sharp-edged spoon in puerperal and septic endometritis. It seems to be indicated in every case in which high fever depends upon the retention of putrid membranes. The results will naturally be the safer and speedier the earlier the opportunity is taken for operative procedure; and if trial is made of the means proposed, most probably there will result further progress in the future, in the treatment of this so frequently dangerous disease. However, if the cutting spoon is found to be a prophylactic measure against the complication of puerperal endometritis and sepsis of the generative organs, it, nevertheless, will be subordinate to careful antiseptic procedures otherwise carried out.

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SATURDAY, FEBRUARY 14, 1885.

THE ANTISEPTIC TREATMENT OF TYPHOID FEVER.

WE presume no one will deny that the therapeutics of typhoid fever as practised to-day is far from satisfactory. This being the case, no treatment which promises more favorable results than have been obtained in the past, should go without a thorough examination of its claims before it is rejected. While the antiseptic treatment of this disease has not been received with much favor in this country, it must also be admitted that the actual trials made with it have been too few to justify any conclusions. We believe, therefore, that our readers will be interested in some further exposition of this treatment than has recently appeared in our columns, especially if it reflect the views entertained by such an authority as M. CH. BOUCHARD, whose paper, read before the International Medical Congress at Copenhagen, is published at length in the *Revue de Médecine*, of Nov. 10, 1884.

M. Bouchard characterizes the two forms of treatment—the antipyretic and the antiseptic—in the following language: The antipyretic method attacks a symptom—the high temperature; it is palliative, not curative, and it permits the disease to culminate and recede spontaneously. But the antiseptic treatment strikes at the cause, and its objects are truly curative. Further, Bouchard does not propose to substitute the antiseptic for the antipyretic treatment, but to associate the two.

In the first place, the extraordinary success of the antiseptic method in surgery makes it not unreasonable to expect similar effects upon internal maladies, although the much greater difficulty in securing the action of the antiseptic upon the agent of the disease is admitted, since in the latter case it would appear that the economy must be impregnated before an effect can be secured, while in the former the application is direct. Such impregnation, it is alleged, may destroy the patient before it will destroy the microbe of disease. But such reasoning is fallacious, because it is well known that certain substances, harmless to man, are destructive to microbes; certain microbes flourish in solutions of quinine, arsenic, and antimony, and others perish in the same solutions; finally, the infectious agents of certain infectious diseases, such as dysentery, cholera, and diphtheria, are really limited to the surface of organs, and impregnation of the economy is not essential in order to reach them. Further, medical antisepsis does not propose to kill the microbe, but rather to prevent its proliferation. It is not the ferment, but its incessant renewal, which constitutes the disease. A simple change of soil and of climate is sufficient to influence the fecundity of the higher animals and vegetables. The infected organism is a soil for the microbe, and is it not reasonable to suppose that a change of this will affect its indefinite increase? But these speculations have actual support in facts. Sheep, which are very subject to anthrax in the province of Beauce, are rendered unsusceptible to its inoculation when transported to Algeria.

To many, M. Bouchard will appear to be begging the question, when he declares that mercury in syphilis, quinine in intermittent fever, and salicylic acid in rheumatism, the cold bath—indeed, all antithermic remedies—act as antiseptics. In like manner, he considers that quinine reduces the temperature in typhoid fever by its noxious influence upon the vegetable organisms upon which the disease depends. It is, however, necessary to continue the quinine to maintain the antipyretic effect, and the moment the drug is eliminated, the temperature rises, while quinine does not reduce the temperature in the well man. On the other hand, carbolic acid is a true antithermic. It reduces the temperature of the healthy man as well as that of one who is ill with fever. Its antipyretic influence seems to depend upon a physiological action on the organism of the patient rather than on the agent of infection.

M. Bouchard is satisfied from personal experience that carbolic acid will abort typhoid fever, although this action is not without exception. Out of 233 recoveries under its use, in but 22 had he seen the disease last less than two weeks, or from 9 to 13 days, a proportion of 9 to 10 per cent., and the average duration was 23 days. He relates a remarkable instance of this abortive action, not, however, as he says, to be imitated. A young man received on the sixteenth day of the disease, by mistake, an enema of one ounce and a half of carbolic acid, which was, fortunately, promptly expelled. In half

an hour he was in a state of collapse and coma, and the temperature fell from 104° to 95° F. The next day the rectal temperature was 98.6° F., and from this time it did not rise above 100.4° F. Recovery progressed, the typhoid process having been arrested.

Among other antiseptics employed in the treatment of typhoid fever, he mentions chlorine, iodine, sulphurous acid, the sulphites and hyposulphites, mercurials, oil of turpentine, creasote, thymic acid, benzoic acid, salicylate of bismuth, boracic acid, iodoform, resorcine, kairin, antipyrine.

Of the mercurials, calomel has been especially used, generally in large doses at long intervals. But Serres and Becquerel have administered continuously the black sulphuret internally, and externally by friction, although not to the production of salivation.

On the other hand, Dr. Salet, at the Hospital Saint-Germain, gave calomel in doses of 1.5 grains every hour until stomatitis was produced. Bouchard himself has collected 31 cases treated by this method, of which only 2, or 6 per cent., died. In those who recovered, the average duration of the disease was about 20 days. Two-thirds of the cases recovered in three weeks or less. In one-tenth of the cases, only, was the duration more than 25 days. Stomatitis was produced 18 times, on an average, after 9 days of treatment. In the thirteen cases in which stomatitis did not occur, the average treatment was about 10 days. The two who died were under treatment only 7 days, and the calomel seemed even in these cases to have exercised a favorable influence. The stomatitis was never serious, and disappeared rapidly under appropriate treatment.

Notwithstanding these favorable results, and that he believes calomel exercises a specific action and neutralizes the agent of infection, M. Bouchard admits that his own observations show that mercury diminishes the vitality of the patient, that convalescence is slow and tedious, that anæmia persists, and that strength returns slowly. He has also noted more frequent intestinal hemorrhages and dysenteric evacuations, and after recovery he has seen epistaxis, diarrhœa, pneumonia, and endocardial vegetations. Finally, he has found relapses more frequent—once in five cases. In a second series of cases in which he had used the mercurial subcutaneously, he found pneumonia and endocarditis less frequent.

As the result of these facts, M. Bouchard is not able to decide upon the practical utility of mercurials in the treatment of typhoid fever, but his clinical observations justify him in concluding that mercury, even in minimum dose, is competent to hold in check the development of the typhogenous microbe.

Antisepsis may, however, be advantageously used locally as well as generally. For nine years past, M. Bouchard has been in the habit of administering charcoal to his typhoid fever cases, not with a view to acting upon the typhogenous agent inhabiting the intestinal canal, since it is well known that putrefaction is not in the least affected by charcoal, but to absorb the product of the intestinal fermentations, and thus overcome the offensiveness of the intestinal contents. In this manner not only do the fecal matters lose their fetidity, but are made altogether inodorous, and furnish, on filtration, a colorless liquid. Thus, too, Bouchard believes that a large proportion of the alkaloidal substances known as ptomaines, which he discovered to be a constituent of normal fecal matter in 1882, and which are enormously increased in typhoid fever, are destroyed, and the toxic effect arising from their absorption avoided.

To secure antisepsis of the digestive tract, he combines iodoform with charcoal, of which ten grains are dissolved in three and a quarter ounces of sulphuric ether, and to this are added three and a quarter ounces of powdered vegetable charcoal. After evaporation of the ether, the carbon-iodoform is incorporated with six ounces of glycerine, thereby securing very minute subdivision and an enormous surface. Of the mixture, a tablespoonful, diluted with half a glass of water, is given to the patient every two hours. With a view to showing the effect of such a treatment, Bouchard ascertained that the injection into the veins of a rabbit of the extract of four and a half drachms of normal fecal matter per kilogramme of the weight of the animal produced death by convulsions in less than a minute. He injected in the same manner the extract of six and a half ounces of the fecal matter of a typhoid patient treated with the iodo-carbon, without any inconvenience whatever to the animal.

Under this treatment, he has seen the hospital mortality of typhoid fever fall from 20 to 10 per cent., and by the use of charcoal alone, to 15 per cent. In cases thus treated, also, he had noted the absence of odor in the intestinal contents of those dead of the disease, and a cleanness of the ulcers, which did not present the usual pultaceous appearance. The urine is less high colored. In lieu of the usual earthy complexion, the skin is remarkably clear, the tongue remains almost always moist, and bed-sores are extremely rare.

During such treatment, it is important to regulate the bowels in order to prevent accumulation of the charcoal.

As stated at the outset of this article, such results as these certainly demand a more thorough examination of this treatment, and justify the very modest conclusion of M. Bouchard, that while medical antisepsis has not yet secured all that has been promised, it has nevertheless realized some therapeutic progress.

Apropos of the above iodo-carbon local treatment, it is interesting to note that Bouchard has used it

in other diseases which are accompanied by excessive fermentation in the digestive canal, such as dilatation of the stomach, and putrid diarrhœa with or without ulceration. He has also resorted to it in cases in which fermentation is normal, but in which oliguria or renal impermeability prevents the sufficient removal of the agents causing the toxic effects known as uræmia, but which, according to his views, deserve rather the term stercoræmia.

CHOLECYSTOTOMY AND CHOLECYSTECTOMY.

In the issue of The Medical News for December 20, 1884, we presented our readers with a summary of the existing state of our knowlege of cholecystotomy and cholecystectomy. Of 27 examples of the former operation, analyzed at that time, 6, or 22.22 per cent., perished, while all of the 4 cases of excision of the gall-bladder recovered. The conclusions at which we arrived were, first, that in the operation of incision the use of sutures was dangerous on account of the periodical filling and emptying of the gall-bladder, and the risk of the escape of its contents into the peritoneal cavity; and, secondly, that, in view of the comparative safety of cholecystotomy, extirpation of the viscus exposes the patient to a needless risk, and that it should, therefore, be abandoned.

In the few weeks that have elapsed since the appearance of the article referred to, additional recorded examples of both procedures tend to show that these objections are not so weighty as we had supposed them to be at the time at which they were framed. In the case of Meredith, quoted by Morris in the *International Encyclopædia of Surgery*, Vol. V. p. 1073, the incision was closed with sutures and the organ returned into the abdomen. At the post-mortem examination, death having ensued in forty-eight hours from suppression of urine, the gall-bladder contained nearly a half pint of thick bile, and the duodenum contained a considerable quantity, thereby showing that the periodical filling and emptying of the organ had exerted no effect whatever upon the stitches. Hence, we may conclude that the objection has no foundation in fact.

In the *Berliner klinische Wochenschrift*, Nos. 51 and 52, 1884, Langenbuch records 2 additional examples of cholecystectomy, making 5 in all that he has performed. In the fourth case, an ulcerative perforation of the cystic duct close to its junction with the hepatic duct permitted the escape of bile into the peritoneal cavity, and caused the death of the patient. The existence of the opening was not suspected, as a thorough examination of the ducts was prevented by the presence of large masses of fat. The remaining cases recovered. Adding to these operations the 1 of Courvoisier, 6 cholecystectomies have yielded 5 recoveries, and 1 death, or a mortality of 20 per cent. 32 cholecystotomies, on the other hand, show 25 recoveries and 7 deaths, or a mortality of 21.87 per cent., and in three cases a permanent fistule remained. Hence, from a purely operative standpoint, extirpation is a slightly less dangerous procedure than incision.

In the present state of our knowledge it may be declared that neither operation is justifiable unless the common duct is patulous and icterus is absent. Under these circumstances, in recent cases, cholecystotomy should be resorted to; but should the coats of the gall-bladder be ulcerated, or should the viscus contain adherent connections threatening perforation, excision is indicated. In favor of the latter operation in all cases it may be mentioned that recurrence of the trouble is completely obviated, and that it does not appear to be attended with greater risk than does incision. For these reasons, a more extended experience may show that cholecystectomy is not so "intrinsically absurd" a procedure as Mr. Tait declares it to be.

EXTERNAL MIGRATION OF THE OVULE.

As is well known, the ovule set free by the rupture of the ovisac passes through the oviduct of the same side to the uterine cavity; thus, when the ovule is furnished by the right ovary it enters through the right oviduct to the uterus. But occasional cases were observed in which, for example, the recent corpus luteum was found in an ovary, the corresponding oviduct being obliterated, and hence the natural conclusion followed that an external migration of the ovule had occurred, by which it had passed over to the opposite oviduct, and through it had entered the uterus.

Experimental proof has recently been given of the truth of the hypothesis just stated. Dr. Buzzi, (*Annales de Gynécologie*, January), wishing to study extrauterine pregnancy, tried to produce this result in ten rabbits upon which he experimented. He removed in some cases the ovary of one side, and tied the abdominal end of the oviduct of the opposite side; in others he removed the ovary, and then tied and divided the uterine end of the oviduct. Of course in the latter case, supposing the left ovary to have been removed and the oviduct tied and divided, the spermatozoids might pass through from the uterus to this opening, and thence in the abdominal cavity to the right ovary. He hoped by the difficulties thus put in the way of the migration of spermatozoids and of ovules to cause an extrauterine pregnancy. The animals were placed with a male, and after some months one of them had young, and it was then killed. Examination proved that the ovules impregnated came from the right

ovary, though the right oviduct had been tied and divided, as has been stated, just at its entrance into the wall of the uterus. Further, the impregnated ovules had gained the uterine cavity through the left oviduct. The proof thus given of the external migration of the ovule is conclusive; it cannot be invalidated by the possibility, which has been suggested in regard to the ovule in the human subject where such migration was alleged, that the obliteration of the oviduct occurred after impregnation.

THE BACILLUS OF TYPHOID FEVER.

In his paper on "The Antiseptic Treatment of the Acute Infectious Diseases," read before the Eighth International Congress, at Copenhagen, M. Bouchard describes a bacillus, the study of which he has pursued for five years, and has found in all the pathological new formations occurring in connection with typhoid fever, except the sudamina. He considers this microbe to be the causal agent of the disease, although he admits that he has been unable to prove this with certainty, because, having introduced it into the digestive tube of the guinea-pig, the rabbit, dog, and pig, he has never been able to induce a disease similar to typhoid fever, while the morbid conditions he was able to provoke did not secure immunity from the true disease.

The microbe is easily cultivated in bouillon; its proliferation is prevented by the biniodide of mercury in the dose of one-third of a grain to the quart of bouillon, while half a grain is necessary to arrest the multiplication of the bacterium which produces spontaneous alteration in bouillon.

REVIEWS.

Sixth Annual Report of the State Board of Health of Illinois. With two Appendices: A.—Conspectus of the Medical Colleges of America. Revised to December 20, 1884. B.—Official Register of Physicians and Midwives in Illinois. Revised to December 1, 1884. 8vo. pp. xxiv. 103, xxvi. 96, xv. 324. Springfield, 1884.

This useful volume, in addition to the report of the Proceedings of the Board, contains much valuable information, going to show the absolute necessity of some supervision of the practice of medicine in the States; it contains a conspectus of the Medical Colleges of America, revised to December 20, 1884, and preceded by an admirable Review of Progress in Medical Education. The conspectus contains the title, location, address of corresponding officers, organization, curriculum of study, requirements for admission and graduation fees, number of matriculates and graduates of all medical schools in the United States and Canada, whether existing or extinct, regular or irregular, fraudulent or honest. This list is simply invaluable to any one who has to do with Medical Colleges. For nowhere else is so much valuable, well-arranged information contained in so small a space.

In addition, the volume contains a complete list of physicians and midwives to whom certificates have been issued since the organization of the State Board of Health, as well as of those whose licenses have been revoked, so that it is an official list of the practitioners of the State of Illinois.

SOCIETY PROCEEDINGS.

NEW YORK SURGICAL SOCIETY.

Stated Meeting, January 27, 1885.

The President, R. F. Weir, M.D., in the Chair.

Dr. W. T. Bull read a paper entitled

A SUCCESSFUL CASE OF LAPAROTOMY WITH ENTERORRHAPHY FOR GUNSHOT WOUND OF THE INTESTINES.

(See page 171.)

Dr. Sands considered Dr. Bull's case to be one of great value as a contribution to abdominal surgery, and as calculated to encourage a resort to operative measures in the treatment of penetrating gunshot wounds of the abdomen. Of course, it was desirable to avoid abdominal section, if possible, in desperate cases, and in cases in which spontaneous recovery seemed probable. In Dr. Halsted's case the operation was not undertaken with much hope of saving life. The most important question relating to practice is, How shall the doubtful cases be excluded? The evidence of penetration of the intestine is in most cases uncertain. In very few instances, so far as his experience and knowledge went, even where the intestine was perforated, was there a demonstration of the fact, by an escape of feces or intestinal fluid from the opening in the abdominal wall. Dr. Bull, in his case, does not seem to have satisfied himself by probing, that the bullet had even entered the abdominal cavity. On the other hand, there are some cases in which there is reason to suspect that a bullet has perforated the hollow viscera within the abdominal cavity, but in which some doubt is afterward felt on this point, in consequence of the prompt recovery of the patient. Dr. Sands would like to ask Dr. Bull, What symptoms convinced him that his case was one of perforation of the intestine? If, in doubtful cases, this point could be settled, it might be the duty of the surgeon, in the light of the success obtained by Dr. Bull, and in view of the almost uniform mortality of such injuries, to open the abdomen, a procedure which might afford the only means of saving life.

Dr. Bull thought it was generally acknowledged that it was impossible to name any particular symptoms which indicated positively that the intestine had been wounded. It had been stated by authors that if there was general tympanites, and blood escaped by the rectum, one could infer that the intestines had been wounded; a large number of authorities had stated that there was no way to determine whether or not the intestines have been perforated. Dr. Parkes, of Chicago, in a paper read before the American Medical Association, in which he detailed the results of a series of experiments performed on animals, stated that as a result of his experiments it was impossible to form any con-

clusions from the symptoms as to the direction in which the bullet went, and also as to the amount of damage which it may have done, except within certain limitations. Dr. Bull thought it not right to say that in the absence of symptoms the intestines are probably uninjured. These considerations, and the fact that in this man's case it was uncertain whether the wound entered the cavity of the abdomen or not, led him to explore the bullet wound first, and when it was found that the wound did enter the cavity, the abdominal section was made. It seemed to him that the difficult question was not so much what kind of cases are we to operate upon, as what kind of cases is it not desirable to operate upon. Dr. Halsted had mentioned a case, which was a very desperate one from the first, but, at the same time, it was one of those cases which would certainly terminate fatally without interference, and he thought interference in such cases was justifiable, if there was prospect that the patient could sustain the operation. This was difficult to determine. Therefore, given an abdominal wound, with the patient in good condition, without any symptoms which enable the surgeon to determine whether or not the intestines have been perforated, he believed it proper first to explore the wound, and if the wound was found to enter the peritoneum, also to enter the peritoneal cavity by operation, and endeavor to remedy the damage done.

Dr. Stimson asked if laparotomy had ever been successful after feces had been extravasated into the abdominal cavity.

The President was under the impression that such cases were on record. He also remarked that it was difficult to form an opinion with reference to the amount of damage done in cases in which the symptoms of collapse were very marked, as in Dr. Halsted's case. The second case reported by Dr. Bull was one in which he assisted the operator, and also in deciding the question as to whether or not the operation should be performed, and he readily recalled the difficulty in reaching a conclusion as to whether the shock came from injury of one of the viscera or whether it came from hemorrhage. He thought it utterly impossible to determine this question positively, and believed it to be justifiable to make an exploratory incision, and to examine with the fingers, or, better still, in cases of suspected hemorrhage, to introduce a small sponge attached to a sponge-holder.

Dr. Sands inquired of the surgeons of the Presbyterian Hospital, who might be present, as to the exact nature of a case in that institution which was supposed to be one of perforating wound of the stomach, and which recovered without operation. If it could be proved to have been a case of perforation of the stomach or intestine, it would show that nothing could have been gained by surgical interference. He thought it impossible at present to formulate our experience so that it would enable us to determine positively when to operate.

Dr. Stimson thought it possible that a ball of small calibre could perforate the stomach without causing an escape of the contents of the stomach into the peritoneal cavity.

Dr. Briddon remarked that there was a class of cases in which it was doubtful whether or not the operation of laparotomy should be performed, and one question to be decided was, whether perforation of the intestine had taken place. At one time he regarded shock as a very important symptom in deciding this point, but had subsequently given it up, inasmuch as the condition of shock varied so greatly in different individuals.

Dr. Bull said that, in the class of cases referred to by Dr. Briddon, if the intestines are not found perforated after an exploratory incision, he would not consider that the patient's chances had been very much impaired by the operation. If the gut is not damaged, no special harm will be done by making an exploratory incision, and if it has been perforated, there are many chances in favor of recovery after the operation. He thought that his attempt in the case which he reported was influenced by the history of a case which he saw four or five weeks before his patient came under his observation.

It was that of an Italian woman, 35 years of age, who was shot in the belly, the ball entering just below and to the left of the umbilicus, and in which there was no more evidence of damage done to the contents of the abdominal cavity than in the patient upon whom he operated. For a week no one was able to say whether or not the woman had peritonitis, but gradually symptoms increased, and she had well-marked suppurative peritonitis. An abscess formed near the umbilicus, and extravasation of feces took place, secondary hemorrhage with the loss of only about two ounces of blood occurred from the epigastric artery, and the patient died. At the autopsy it was found that the intestine had been perforated by the bullet at only two places; one in the sigmoid flexure, and the other in the ileum. As soon as he learned the result of the autopsy, it occurred to him that there were but two wounds of the intestine, and that the patient was in good condition when she entered the hospital; and that abdominal section with such trifling lesions to deal with would have offered every chance of success. If he should see such a case to-morrow, he should feel that the best advice which he could give would be to have an exploratory incision made.

Dr. Bull thought that if members present would recall autopsies in cases of gunshot wounds, they would find that the number of perforations in some of them had been very small, and also that it was doubtful if a case of recovery could be recalled in which there was undoubted clinical evidence of intestinal perforation.

Dr. Sands said that, in cases like those mentioned by Dr. Bull, he should feel strongly inclined to follow the practice which he adopted. In the case of Dr. Hinton's, in the Presbyterian Hospital, the bullet, which was a small one, entered from behind, and it would have been almost impossible to follow its track through the tissues which it penetrated, but where the wound was in front, it could be readily explored, and the operative procedure adopted by Dr. Bull would doubtless commend itself as judicious. He should be disposed to operate promptly in such cases as these, as a preventive measure, rather than to perform laparotomy in cases in which the patient was apparently in a hopeless condition.

Dr. Markoe said that, on the other hand, it was but right to take up the opposite view of the question. He remembered a patient who was brought into the New York

Hospital some years ago, a sea-captain, who had received a pistol-shot wound while attempting to suppress a mutiny. He was standing upon the rail of his ship, and the mutineer was below him, so that probably the bullet entered the abdomen from below upward; it entered upon the left side, midway between the umbilicus and the superior spinous process of the ilium. The patient was brought to the hospital, after considerable delay. There was no evidence of fecal extravasation or hemorrhage, and the shock was moderate. The patient was in exceedingly good condition. Peritonitis and death, however, were expected, but the case progressed from day to day without the development of peritonitis, and the patient recovered without a single bad symptom. To be sure, it may be said, and it was said at the time, that it was a case in which the ball had evaded the hollow organs, and had slipped off somewhere to one side and become encysted, and who could settle the question, whether or not the internal organs were wounded? He simply mentioned the case because it was only fair to have both sides of the question presented.

Dr. Sands said that the case mentioned by Dr. Markoe, recalled to him one in which a bullet was found encysted in the great omentum in the body of a dissecting-room subject. When the bullet was discovered, a further examination was made in order to determine, if possible, the course it had followed, and a cicatrix was found in the back over one of the lower intercostal spaces on the right side. There were also found adhesions between the opposed pleural surfaces, a cicatrix in the diaphragm, one on the upper and another on the under surface of the liver.

The President referred to a case which he saw during the war, in which there was found a lodgement of a bullet in the omentum, where it hung suspended in the abdominal cavity. He also remarked that the cases of gunshot wounds which presented themselves in our civil hospitals were made at short range, and that experiments conducted on many cadavers in the late war showed that in nearly every instance such wounds involved the solid or hollow viscera. While opposing the usual ostrich principle and advocating a bolder treatment in penetrating gunshot wounds, he thought that Dr. Bull had laid too slight stress upon the danger of exploratory incision. He had been struck with that fact in laparotomies for intestinal obstruction done by himself and witnessed in practice, where the exploration necessitated the taking out of the entire intestines in the hunt for the point of obstruction. He had not yet seen a case in which such a general overhauling of the intestines had been followed by recovery, and he, therefore, thought it well to distinguish between exploration of the peritoneal cavity and exploration of its contents.

For some time past, with regard to Neuber's intestinal plug, to be in readiness for a case of intestinal obstruction, he had provided himself with several large-sized gelatine vaginal suppositories, also with several pieces of the largest sized macaroni, to be used singly or in bunches, and also sections of the finger rolls, used at dinner, were at times put into the intestines to stitch the gut over and allow them thus to remain in situ to be subsequently dissolved. He had not, however, had opportunity to use any of these articles. Freres's rubber bags, which he had shown at a previous meeting of the Society, were easily collapsed by an incautious puncture of the needle.

Dr. Lange remarked that, interesting and instructive as Dr. Bull's case was, it admitted the question whether in this individual instance the patient's life could not have been saved without the operation. At the time of the operation the patient was in a fairly good condition; there was no evidence of peritonitis, and the patient's general condition was such, seventeen hours after the injury, as to render it exceedingly probable that no extravasation of the contents of the gut had taken place. He would like to ask Dr. Bull if, taking into consideration the condition of the parts injured found at the operation, the closure of the small wounds by apposition of gut and fibrinous deposits, and the nature of the exudation, if he would regard the recovery of this patient as improbable without operative interference? Second, he would like to ask if Dr. Bull thought it possible that, a number of injuries of the intestine being present, there might have been some probability that manipulations of the gut could have reopened some of the bullet holes, and allowed infection of the peritoneum to take place in consequence of the operation itself.

His remarks did not in the least diminish the value of the operation so far as it was an exploratory operation, but the question was, What had the operation afforded? What did it do? The operation cleaned the peritoneal cavity, it is true.

Dr. Lange thought that the indications for an exploratory operation were far more clear in cases in which a short time after injury the symptoms of peritonitis were present than in those in which they were absent, for such a length of time as in the case reported by Dr. Bull.

Dr. Bull replied that it was impossible to answer whether or not the wounds would have remained closed. Where so many wounds had been made in the intestine, even if no fecal contents escaped at the time of making them, a sufficient amount of irritation would be produced to give rise to peritonitis; and, moreover, the liability of foreign matter being introduced by the bullet, which would produce damage entirely independent of the wounds of the gut. He would say that in a patient with seven wounds in the intestines there were next to no chances of recovery by any conservative plan of treatment.

Dr. Briddon asked if eversion of the mucous membrane did not interfere with the process of repair, if the wounds were left alone.

Dr. Lange replied that it did so far as the mucous membrane extended, but he did not see why the peripheral part might not be closed.

Dr. Briddon remarked that mucous membrane would not unite with the peritoneal covering, and if left to themselves, would not small abscesses form at the site of eversion?

Dr. Lange replied, not necessarily.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Stated Meeting, Friday, January 2, 1885.

The President, Richard A. Cleemann, M.D., in the Chair.

DOUBLE UTERUS AND VAGINA.

Dr. Wm. Goodell described a case which had been sent to him on account of pain in the back, various

nervous symptoms, and difficult coition. The vagina was double throughout its entire length. Entrance had apparently been effected indifferently on either side of the septum. The cervices were united like the barrels of a double-barrelled gun. There was a slight divergence of the upper third of the fundus. The sound entered three inches into each cavity. The septum vagina was divided up to the cervix, and her physician reports great relief to the general symptoms.

Dr. C. McClelland described a similar case. Pregnancy had progressed to the third month when the case came under his observation. The vaginal septum was complete. The external contour of the cervix was normal, but the septum, extending from the os to the fundus, divided the cavity into two parts. The prominence of the uterus was greater on one side of the abdomen. The sound was not passed. The vaginal septum was divided shortly before labor. A living child was delivered. About the third day after delivery, a mass, apparently of decidua, was thrown off after three or four hours of labor pains. After involution was complete, sounds were introduced into the uterine cavities, and the handles diverged one and three-fourths inches. A second conception occurred afterward on the other side of the uterus.

Dr. Goodell some years ago had under his care a case which he at first diagnosticated as an extra-uterine pregnancy, as he apparently found the uterus empty, passing the sound into it, while undoubted signs of pregnancy existed. The fœtal tumor was larger toward one side of the abdominal cavity, while the uterus was deflected to the other side. He saw the patient every two weeks, and made frequent careful examination. He sent the patient to the University Hospital, and fixed a day for operation. One day, while lecturing on the case, he had his hand on the abdomen of the patient, and felt a contraction and hardening under his hand. This so resembled the action of uterine tissue that he sent the patient to the Preston Retreat for observation. She was delivered spontaneously.

There was but one cervix and one os, but there was a uterine septum higher up, dividing the cavity into two parts.

Dr. Harris remarked that the observer, in these cases, is liable to be deceived because the enlargement of the uterus causes it to rotate, the empty half of the uterus admitting the sound in the median line. The uterus, too, is generally poorly developed, as this form of uterus is probably the result of arrest of development, and its thin walls do not give, to the palpating hand, the normal sense of thickness and resistance.

DOUBLE OVARIOTOMY, WITH UNUSUAL COMPLICATIONS.

Dr. W. H. Parish reported the following case: In September, 1884, I saw, in consultation with Dr. M. O'Hara, a lady who had been under his treatment for a number of months. She was 52 years of age, and of exemplary habits. The menopause had been established for a number of years, and she had enjoyed good health until a few months ago. In June, 1884, she noticed, for the first time, that her abdomen was enlarged. In July she consulted Dr. O'Hara, narrating symptoms of indigestion. In August the abdomen had become so enlarged as to occasion concern on the part of the patient, and she had submitted to an examination by Dr. O'Hara. About August 15 Dr. De F. Willard saw her, in consultation with Dr. O'Hara, and the diagnosis of ovarian tumor was coincided in. On September 6 I saw the patient with Dr. O'Hara, and also diagnosticated ovarian tumor. The physical signs were the usual ones characteristic of ovarian tumor. There was distinct resonance in each flank, and no indication of fluid in the peritoneal cavity. The abdominal distention had become very considerable, occasioning no little interference with respiration, and was associated with slight œdema of the lower extremities and general emaciation. Removal by operation was urged upon the patient, but was positively refused. After the lapse of ten days I again saw her with Dr. O'Hara. The difficulty in respiration had so greatly increased as to prevent sleep, except in the semi-erect position. But little nourishment had been taken, and exhaustion had correspondingly increased. In the erect position the pulse was 160 per minute; in recumbency, 130. The abdomen measured forty-five inches at the umbilicus. Its shape had changed since my previous visit. In the flanks there was distinct bulging, with fluctuation and percussion dulness. I diagnosticated peritoneal dropsy as a complication of the ovarian cyst. The œdema of the lower extremities had increased. The patient had requested that she be tapped, and it was with reluctance that I consented to resort to that measure. On September 14, with the assistance of Drs. O'Hara and J. B. Roberts, I attempted to diminish the size of the abdomen by tapping the cyst, using for that purpose the ordinary trocar and canula. Only a few drops of thick gummy substance were obtained. The cyst contents were too thick, too jelly-like, to run through the canula. But a single puncture was made. The patient now gave her consent to the performance of ovariotomy.

September 16.—The patient has been fed and stimulated as her condition demanded or permitted. Pulse 120; resp. 40; temp. 98¾° F. As yet no apparent disturbance from the tapping.

17th.—Pain referred by the patient to the bowels; three movements, probably resulting from indigestion.

18th.—Operation performed; previous to the operation, pulse 130; resp. 40; temp. 99° F. Tongue dry and brown. Bowels moved twice during the night. Still has pain, supposed by the patient to be in the bowels. There were present: Drs. O'Hara, A. H. Smith, J. B. Roberts, and McElroy. The patient was etherized by Dr. Roberts, and the usual incision along the linea alba was made. The tumor was found to be adherent to the anterior abdominal wall. An attempt was made to break up these adhesions, but the cyst-wall was so extremely thin that the cyst was soon torn into. Its contents were too gummy to flow, and it was necessary to scoop out this substance with the hand. The contents had the consistence and appearance of calf's-foot jelly, and was adhesive like gum, sticking to the hand so that it was necessary to strip it from one hand with the other. There were numerous slight adhesions to the intestines, but as the cyst-wall was so extremely thin, these adhesions were not troublesome, portions of the cyst-wall being left attached to the intestines. It was soon discovered that the cyst-wall had ruptured prior to the operation, and that every portion of the peritoneal cavity contained quantities of the colloid material and masses of dark grumous blood. The contents had doubtless

escaped gradually from a rent in the upper posterior portion of the cyst several days before the tapping. It was the presence of this material in the peritoneal cavity that led me to diagnosticate the coexistence of peritoneal dropsy. There was no serum in the peritoneal cavity. Washing the peritoneal surface with water would not remove the colloid material, and it became necessary with hand and sponge to remove it from the under surface of the liver, from about the spleen and kidneys as well as from among the intestines. After emptying the large tumor, it was discovered that there was a smaller one about the size of a fœtal head, unbroken and without adhesions, and partly pressed into the pelvis by the superincumbent large one. The two tumors presented the same characteristics. They had thin transparent walls with numerous internal alveolæ and thin septæ, with gummy colloid contents. About the base of each, but especially of the larger, there was a limited amount of solid substance. The pedicle of each was ligated and dropped into the abdomen. Each tumor evidently grew from an ovary. The general peritoneum, wherever it could be seen or felt, presented innumerable cysts with walls and contents like those of ovarian cysts. These peritoneal cysts varied in size from that of a millet seed to that of a pea. Many of the larger ones were ruptured by the hand or sponge. These minute cysts were not arranged in clusters with stem-like attachments to the peritoneum, but were isolated, and had the appearance of blebs on the peritoneal surface. The peritoneum presented general injection of its capillaries, with slight roughening of its surface, but there were no evidences of active or decided peritonitis. The hemorrhage was but trifling, and but few ligatures were applied. The abdominal incision extended about an inch above the umbilicus. A glass drainage-tube was introduced at the lower angle of the wound, and the remainder of the incision was closed with silver sutures. At the close of the operation, shock was not great; pulse 134. Morphia was given, and the patient passed a somewhat comfortable night. No vomiting.

19th.—Morning, pulse 138; resp. 34; temp. 100° F. Evening, pulse 140; resp. 30; temp. 102° F. Vomited a little, and abdomen somewhat distended. Face pale, and features pinched. Three ounces of pinkish serum removed from tube. Vomiting checked by swallows of hot water, and a mixture containing creasote and sodii bicarb. Tube washed out with carbolized water.

The third night the patient was restless, and vomited. Next morning, pulse 150; resp. 26; temp. 101¾°; increased stimulants, and at noon pulse was 138; resp. 26; temp. 100⅗°. Fourth night, slept some, less vomiting; she takes koumiss, and retains it. Next morning, pulse 140; resp. 20; temp. 100 4/10°. Fifth night, pulse 120; resp. 22; temp. 101⅘°, stronger. Three ounces of a somewhat offensive fluid were taken from the tube; bowels were moved spontaneously. Sixth night, she slept well; pulse 114; resp. 23; temp. 101⅕°; sutures removed, union complete. Tube slipped out, and could not be introduced again. It left a canal with healthy granulating walls. Seventh night, vomiting returned; she did not receive the usual amount of stimulants during the night. Exhaustion and vomiting increased, without additional rise of temperature, and patient died on the ninth day. The death was doubtless due to exhaustion. The disease of the ovaries and of the peritoneum was doubtless colloid cancer. The tumors and the material removed from the peritoneal cavity weighed fifty pounds. It seems right to conclude that had the tumors been removed in their earlier stages, the patient would have most probably recovered from the operation, and have remained exempt from the disease for months or years, or perhaps permanently.

Dr. Montgomery spoke of the advantages of early operation before peritoneal involvement. He also alluded to the dangers of tapping. He gave a short history of a case of ovariotomy with colloid contents, and recovery from the operation, but followed by death six weeks later from cellulitis and ascites, the cause being unknown.

Dr. Baer related a somewhat similar case, in which the patient recovered, but is now apparently dying from a recurrence of the disease in the upper part of the abdomen.

Dr. Parish, in closing, said that the tapping was done with reluctance, but did no harm in this case. The peritoneal complication made the case hopeless.

OFFICERS FOR 1885.

President.—B. F. Baer, M.D.

Vice-Presidents.—E. E. Montgomery, M.D., W. H. Parish, M.D.

Secretary.—W. H. H. Githens, M.D.

Treasurer.—Alfred Whelen, M.D.

Librarian and Curator.—T. Hewson Bradford, M.D.

Council.—Wm. Goodell, M.D., R. P. Harris, M.D., T. M. Drysdale, M.D., L. D. Harlow, M.D.

Publication Committee.—J. H. Packard, M.D., B. F. Baer, M.D., J. C. DaCosta, M.D., J. B. Walker, M.D.

Library Committee.—Horace Williams, M.D., D. Murray Cheston, M.D.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, February 5, 1885.

The President, Fordyce Barker, M.D., LL.D., in the Chair.

The Statistical Secretary, Dr. F. V. White, announced the

DEATH OF DR. JAMES OWEN WHITE,

on January 30th, of disease of the kidneys, in the eighty-third year of his age. He was born at Coxsackie, Greene County, N. Y., and graduated at the College of Physicians and Surgeons, New York, in the year 1825 He had been a Fellow of the Academy since 1853.

The President then introduced a number of

DISTINGUISHED VISITORS,

including Drs. John S. Billings, U. S. A., of Washington; S. Weir Mitchell and Theophilus Parvin, of Philadelphia; and George B. Shattuck and James R. Chadwick, of Boston. The venerable Dr. James Anderson, one of the ex-Presidents of the Academy, and Prof. Alfred C. Post were also invited to take seats on the platform.

The President, Dr. Barker, then delivered a *Valedictory Address*, after which he resigned the Chair to

the PRESIDENT-ELECT, DR. A. JACOBI, who then delivered his

INAUGURAL ADDRESS.

After expressing his thanks for the honor done him, and his appreciation of the responsibilities of his position, he alluded to the brilliant qualities of his predecessors in the Presidency, and said that the only thing that reconciled him to accepting that position was the flourishing condition in which they had left the Society. Having again expressed his thanks for the honor conferred on him, he made the request that every Fellow would consider the interests of the Academy under his personal charge.

He described the Academies of Medicine in Europe, which were made up of a few men who were preëminent for their achievements, each in his special department, and said that the New York Academy was of a more democratic character, and it was desirable that the many reputable practitioners should gather round its flag. Like the Union, it is a voluntary confederation, who make their own laws, and obey them, because they are of their own making. Almost all were men busily engaged in active practice; none devoting themselves entirely to study alone. Anglo-Saxon medicine has never forgotten that the aim and end of all medical science are the treatment and treating of the sick, and that every special study is but a means to obtain that end.

In New York, he said, there were too many societies, too much subdivision, and it would be better that the profession should concentrate its energies more in the prosecution of scientific work. All the various special societies, he thought, might well have been sections of the Academy of Medicine, as they could still have remained practically independent organizations.

The practical tendency of this Academy, he said, corresponds with the peculiar practical nature of the development of medicine in the English-speaking nations from the last century onward. Even the most fragmentary study of that development is of great interest indeed. Altogether, medicine in the eighteenth century exhibits a peculiar character. It is true that knowledge was not widespread, but the heads of the profession were capable, painstaking, searching, cool-headed men, good observers, and excellent describers. There was a large number of good monographs, excellent histories of cases, and fair diagnoses of the general condition of the patient. Local diagnosis, it is true, was mostly out of the question, since no sooner than in the second half of that century Morgagni collected in his illustrious work, *De Causis et Sedibus Morborum*, all of the only three thousand post-mortem examinations which had ever been recorded in all ages and countries. Their judgment was sound, their therapeutics—though often exuberant—safe. As the scientific language of most of them was the same, Latin, their spirit was not local nor national. The same class of men were found in Germany and the British possessions; also in Holland and France. In the former, we meet the names of Werlhof, R. A. Vogel, Zimmermann, Lentin, Van Swieten, J. P. Frank. There was also Auenbrugger, who ought not to have been so readily forgotten. In Great Britain there were Mead, Huxham, Fothergill, Pringle, Heberden, Monroe, Home. Cullen, there was that giant John Hunter. In America, we had Bard and Rush. In France, Levret. In Holland, at an early date, Boerhaave. The only fanatical theorist of all the English writers was John Brown; the only obscurist, who ought to have had a place in Germany between 1800 and 1840, was Robert Jones, with his *Inquiry into the State of Medicine on the Principles of Inductive Philosophy* (1782). When Broussais reigned supreme in France, his doctrines were welcomed by a great many in England. But the Anglo-Saxon mind is not easily drawn away by theories, and there is after all more solid work in Broussais than wanton theory only. Thus the English literature of the early part of this century teems with good observations and monographs by many more than those I here mention—Travers, Williams, Crawford, Astley Cooper, Brodie, Bell, Abercrombie, Cheyne, Pitcairn, Bright, Hope, and Carswell.

Of French names I have mentioned but one.

The redemption of France, after a century of almost unparalleled corruption and misery, begins with its great Revolution. Never before did fate grant to an unhappy nation a larger number of great spirits, both in politics and science. The faint impression the freer institutions of the British Island made on French literature would not have influenced the development of the country for centuries to the same extent as did the necessities of the population. In the history of political and mental development changes more or less sudden or gradual appear to be the rule; rise and decline change off, as the fertility and sterility of a corn-field. The fertility of France lasted a long time. While the greatest man in its political world could not do better than spread all over Europe part of the results of the French Revolution, through violence and murder, a young scientist revolutionized medical science by genius and hard work. That is what Bichat did when he studied the physiology and pathology of the organic tissues. Since that period, France has marched at the head of medical science for about half a century. Pinel, Corvisart, Cruveilhier, Biett, Cazenave, Gibert, Laennec, Ricord, Civiale, Guérin, Guislain, Baillarger, Leuret, Longet, Guersant, Taupin, Valleix, Legendre, Dupuytren, Trousseau, Rilliet, Barthez, Durant-Fardel, Orfila, Louis, Broussais, Piorry, what a host of illustrious names, and by far not the only ones who will recall the glory of the French nation when there will be no longer a political France. It is true that a decline has set in. The number of really great men in modern French medicine is but limited. Charcot's name overshadows the reputation of all others, and, it appears to me, will live for centuries. It may be also that Pasteur will be recognized as a fixed star in the scientific sky if he will succeed in divesting himself of the doubtful attributes of polemical tendencies.

After Bichat there are three French names connected with the history of medical sciences in all countries. Laennec's revolution of diagnosis by percussion and auscultation, is not any the less important and precious because Auenbrugger had worked in the same field more than half a century previously, to no other purpose than complete oblivion. Magendie's experimental physiology and pharmacology have benefited all mankind. His is the introduction of alkaloids, such as quinine, veratrine, strychnine, piperine, morphine, emetine—his, the successful admission of bromine and

iodine into practical therapeutics. Finally Broussais, by overthrowing ontologies—though he created one of his own—by localizing disease, by urging prevention and abortive treatment, by studying the anatomical lesions of pathological processes, has substituted a method of anatomical thought in diagnosis for the merely clinical and empirical observation of the sick, and thus been the intellectual author of that method of medical knowledge and reasoning which is best known by the name of the Vienna school. I shall have to consider its representatives shortly, with all its virtues and faults, both of which were learned and loaned from the illustrious Frenchman. For not only did he convey to them his anatomical way of thinking, but he also taught them to be satisfied with coarse local anatomical lesions, and with a nominal diagnosis, adding the assurance that those lesions must lead to death; that indeed the case is either getting well spontaneously, or absolutely hopeless, and that a treatment of any kind is powerless.

The parallelism of political and scientific conditions which strikes us so admirably in the history of French development after the impulse given by the Revolution, is sadly illustrated by poor Germany. The country poor and forlorn, divided in hundreds of shreds, large and small, tyrannized and robbed by hundreds of dukes and bishops, and princelings of all sorts, every one the inferior in mind, but the emulating admirer of the tendencies of that despotic Frederick the Second, of Prussia, in whom it requires the equally despotic soul of a Carlyle to find nothing but admirable traits; that country had, about the end of the eighteenth century, one representative in medicine corresponding with the character of the time. Hufeland was a fair observer, a copious writer, an influential man, but weak and accessible to everybody and everything. It was he who admitted the first Hahnemannian gospels to his journal, and who was of the wise opinion that there may be something good in everything. Then came the French, and whipped the Germans out of political existence. Then the wars which expelled the French, bloody, costly, and short, aroused a peculiar romantic fanaticism which pervaded the whole literature of a short decade, and could but have an unfavorable influence on science. Then came decennia of brutal political reaction and suppression, the scanty means of the nation being spent on police, military, and dungeons, in which the flower of the country, and particularly of the universities, was incarcerated. During that time German thought had no place in terrestrial parts; even before that time Schiller had proclaimed man "free though he wore chains." This sort of freedom the Germans utilized to become transcendentalists. The principal method of studying nature was imagination. Even Kant, the mathematical thinker, had taught them the art of construing things a priori. Then came Schelling with his system of natural philosophy, and Hegel who wrote twenty big volumes, and is reported to have said on his death-bed, that in all his life he had but one pupil who understood him, and that one did not know anything about him. Under the influence of these philosophical absurdities no medical science could thrive. This was the time of animal magnetism and granioscopical humbug.

In such a condition of universal intellectual semi-paralysis and revelry in big words and clouded sensations of all kinds, combined with the insensate and murderous character of therapeutics, it was natural that homœopathy could thrive, with its axioms, that disease was an enemy from without, the result of psora or of medicines; that nature was an enemy of man; that nature will not cure a disease, but a medicine will; that no medicine which can be shown by any physical or chemical analysis still to exist will cure; that its dynamical power increases with its attenuation and annihilation. That was the time in which one of the great lights of German medicine defined inflammation as the condition in which the "electrical essence (or part) is affected in the dimensions." Marcus never said that he understood that himself. At that time the medical literature of Germany was full of such philosophizing nonsense; full of contempt of the unphilosophical foreign countries; of Bright, with his British coarseness in studying nature as it was; of Laennec, whose percussion and auscultation were declared to be immoral and irreligious. My beloved teacher, Prof. Fred Nasse, though all his life a believer in and author on animal magnetism, was one of the first to utilize Laennec's great innovation and the lessons of foreign teaching. Even Schoenlein, though it was through his influence young Virchow, after he had been expelled from Berlin for his liberal political views, was called to Würzburg to teach pathological anatomy, could not free himself from the influence of philosophical doctrines. At that time the science of therapeutics consisted indeed in nothing but empty words, its practice to a great part in the traditional bloodletting, salivation, and purging. Thus it was that the fanatical hydropathists, and the adversaries of vaccination, could obtain such rare opportunities and successes. Thus, that but forty years ago, Rademacher could divide all ailments into saltpetre, copper, and iron diseases, by reason of the remedies of which each cured one-third of all the ailments of German kind.

Schoenlein and Liebig having prepared the medical minds, and the influence of foreign literatures being gradually felt in Germany and Austria, it so happened that Vienna had in its faculty of medicine quite an array of medical genius. Rokitansky, Skoda, Hebra, have long reigned supreme. Broussais's doctrines, good and bad, were readily accepted; his ontological gastro-enteritis was replaced by Rokitansky's doctrine of the crases of the blood, thus reëstablishing the old humoral theory on an apparently firmer foundation. In Rokitansky's opinion, the anatomical changes were the only thing in medicine worth knowing. Skoda, for some time, experimented carelessly and unsuccessfully with remedies; his ill-success and Rokitansky's teaching, confirmed the nihilism of Broussais against which Laennec protested in France, and made the expectative treatment, and the nihilistic faith, the gospel of German practice.

"This was the medicine—the patient's woes soon ended,
And none demanded: Who got well?
Thus we, our hellish boluses compounding,
Among these vales and hills surrounding,
Worse than the pestilence have passed.
Thousands were done to death from poison of my giving;
And I must hear by all the living
The shameless murderers praised at last."

But in Goethe's "Faust" this is said by an incorrigible philosophical roué, who is ready to give himself up to the devil, and in Germany it had the result that the public, who have a right to desire to be cured when they fall sick, preferred the homœopathic pill-box to the pathologist's post-mortem case.

Not long after, Oppolzer, whose name ought to be blessed forever in Prague, Leipzic, and Vienna, began his influential career. In him Germany possessed its first great physician in this century, who knew pathological anatomy perfectly, was a thorough diagnostician, a humane physician, an amiable teacher, who recognized the social, scientific, and humane duties of the practitioner, abhorred preconceived ideas and a priori constructions, acknowledged principles and facts only, and no duty but to find the truth.

It was about that time that Rudolf Virchow commenced to revolutionize medicine. Modern medical science owes its solid foundation and elaboration to him and his followers. The book of medicine of to-day, and, I trust, of the future, bears the imprint of his genius on every page. We all have read, and admired, and praised, knowing that when we readily place Germany in the first rank of the medical world to-day, the name of Virchow is in every mind, on every lip. This brief sketch cannot do him justice, nor do I desire to elaborate a theme with which every one is familiar. But one remark I cannot suppress, viz.: that he is not only great in his revolutionary discoveries and innovations, but in his self-denying conservatism also. If the bacteriomania of modern time has not been accepted uniformly as the universal gospel of modern pathology, if thoughtful hesitation and healthy criticism are still heard above the noisy waves of the seas of all-explaining and all-saving theories which claim to have given, at last, an absolutely solid base to etiology and pathology, that merit again belongs to a great extent to Virchow. I speak of it here because I hope that this Academy may be able to contribute to the solution of questions of great import, by original studies and discoveries.

For there was lately a time, or rather we still live in that time, when a single series of discoveries lays claim to having changed the aspect of pathology at one stroke, and solved all problems. You know I speak of bacteriology. In America also, all of those who cannot judge of the question by their own investigations—that is, the practitioners, either general or special, have readily accepted the new gospel with but few exceptions. The new theories that infectious and zymotic diseases have each their own bacillus, are so pleasant, and promised to be so fruitful, that it required some courage critically to resist the flood. On the other hand, those amongst us who have a right by their own researches and special knowledge to be heard, have hesitated to accept the results of microscopical, actual or alleged, discoveries as the sole explanation of everything infectious and zymotic. Amongst them I shall only name Wood and Formad, and Sternberg. Into the merits of the case, and the weighing of reasons I cannot go this evening, but it has appeared to me that it would be well to direct the attention of the Academy to that subject as one greatly deserving of its attention.

To me, while I readily acknowledge a valuable increase of pathological knowledge, and the fact that the spreading of some disease at least, slow, and gradual, and regular, seems to prove the multiplication of cases of disease by the regular multiplying of its causes, it has always appeared that purely bacteric etiology has too often begged the question, and that the answer to the question, whether organic or chemical poisons are the main causes of infectious diseases, has, by no means, been satisfactorily given. In the course of the last dozen years, organic chemistry has made as rapid strides as has microscopy. Cadaveric poisons, ptomaines, have been discovered in great numbers. Most of them are very destructive. Sudden deaths of zymotic and infectious diseases resemble much those produced by these poisons. That the stings of insects, or the poison engendered in putrid corpses lead to speedy destruction has always been known. Its symptoms are exactly like those produced by many known poisons. Forensic medicine has a great many instances already, in which it could be proven that the poison extracted from the body of the dead was not a vegetable agent, introduced during life, but the cadaveric poison. Count Gibbone was said to have been murdered with delphinine. Prof. Selmi proved that what was claimed to be that vegetable poison, was cadaveric. In another case, he saved the life of a suspected person by proving that it was not morphine, but a ptomaine which was found in the body. Besides the poisons named, there are strychnine, colchicine, atropine, coniine, woorara, nicotine, veratrine, hyoscyamine, narceine, the symptoms and chemical reaction of which are the same, or almost so, as the cadaveric poisons. Lecithine is found in putrid fish; a very dangerous chemical poison has been extracted from putrefying Indian corn and rye. Thus it is that many cases of poisoning with cheese, meat, fish, sausage, jelly, and yeast, many of them resembling acute infectious fevers, may find, and indeed have found, this ready explanation.

Brieger found quite a number of different varieties of cadaveric poisons—neuridine, neurine, muscarine, æthylendiamine, gadinine, and others. Many of these destroy life in a short time, and with the symptoms of acute infectious diseases. These poisons are found, in many instances, in the fresh dead body, not in that one which has undergone complete putrefaction. The results of putrefaction will, after a while, change entirely and become rather wholesome than injurious. Many years ago, Salkowski examined a vessel full of ascitic fluid, which he knew to be in utter putrefaction when he last inspected it. Not only was there no putrefaction any more, but, on the contrary, chemical decomposition had formed phenol. Thus putrefaction had worked its own destruction and antidote. The inference, then, is that a poison, even in the course of the same disease, may not always be found.[1]

[1] Would it be so impossible to judge that the bacterium is an accompaniment of a chemical poison and may be present, or absent, according to the changed condition of the poison? Such changes take place all the time in putrefying material as Salkowski has shown, and others after him. They probably take place in the living body also, during infectious fevers. In the incubation they develop, they are most poisonous and vehement during the height of the process, they gradually change into less dangerous combinations, into an indifferent state, and finally a really disinfectant

Ptomaines are often met with in the presence of bacteria. Is it the latter which produce them? Do they so decompose the albumen of the tissue that a ptomaine must or can develop? Or is it their own vital change which produces it? Most modern writers—not chemists—believe it. But if the cause of decomposition of the living or dead be not bacteria, but a chemical poison after all, is it necessary to assume that the poison cannot form except through and with the presence of bacteria? And is the bacterium the only poison? or the only source of the poison?

If deadly poison, such as we know to destroy life suddenly, or almost suddenly, and of such virulence as is reported in what was formerly believed to be legendary only, but which may be historical, will almost invariably originate in the dead body, is it so impossible that it may develop in the still living under certain circumstances? Have we not had enough yet of the monthly instalments of new bacilli which are the invariably correct and positive sources of a disease, and replaced by the next man who comes along? Have we not yet enough of the statements, that, as for instance, several bacilli are claimed each to be the only cause of diphtheria, by several observers, that there may be several distinct bacilli, every one of which can produce the same scourge? Is it not just as safe still to presume, that, when several forms of bacilli are believed to be such sole causes, that the real cause is in neither?

Exactly so, neither in one nor in the other, notwithstanding it all appeared settled. For our journals are replete with the very latest authentic baterium of diphtheria. This time it is neither Klebs nor Eberth, but Loeffler. Reports, discussions, and even editorials carry his name over the world. The very nature of diphtheria is said to be revealed again, as several times before; still, the discoverer admits that there are cases without the bacterium.

The matter is becoming ludicrous. I begin to fear something like the rebellion against piano-playing in a large European city. Is not music a godly art, and the piano a blessing to the musician? But the playing of fifty thousand beginners in a large city is a nuisance. When bacterio-microscopy in the hands of beginners becomes noisy like piano-playing—noisy in books, pamphlets, and journals—a gentle protest is permissible. That protest is not meant for the masters who know how to wait and to mature. I do not speak against Robert Koch and his peers, who all of them are more modest than their followers. When the kings build, the cartmen are kept busy—and boisterous.

A dozen years ago the coccus of whooping-cough was said to be discovered. There was no doubt about it. There was whooping-cough, there was a coccus, what was plainer and more conclusive? To cure whooping-cough, nothing is required but to kill the coccus. Quinine will kill a coccus, quinine cures whooping-cough. Since that time there is no more whooping-cough in existence; or, if a case would be malevolent enough to turn up, it could not last longer than until a few whiffs of quinine can reach it. That is ludicrous, is it not? But it was preached like gospel, and it was believed. Many more such have turned up, and will turn up, for coming years to smile at.

There is a peculiar feature in this bacteriomania. Its principal impetus it received in Germany at a time when great changes had taken place in its political and financial affairs. All at once there was an Empire, of which historians so much spoke, youth so much dreamed, romancers so much fabulated. All at once, at the same time and a decade before, an unusual industriousness, commerce, enterprise, and unwonted wealth, and still more expectations than wealth; all at once an influx of five thousand millions of francs, not earned by honest work, but conquered by war, which could not but turn the poor heads and unstable the solid foundations of regular development. From that time dates the lack of safety and steadiness in German financial circles. They have even invented a name for that period of swindling, "gründerthum." Speculation was rife—fortunes were made in a day from nothing but self-assertion and daring, and lost as quickly.

The moral and intellectual atmosphere created by these tendencies is never breathed by one class of people only. If self-assertion can make a fortune in finance, why not in science? If a reputation may perhaps be made by a stroke of chance, why not try that chance? Speculation was rife. Any young man can look through a microscope, perhaps he will draw the prize in the lottery of alleged science. Looking would be all right, if he would not write. Medical life would be easier if there were less journal articles containing the latest infallible discoveries. Thus it has come to pass that German medicine has a twofold aspect nowadays. The days of her superiority are not over yet, her greatest men still live, and the toiling thinkers are at work, but the number of speculators is immense. A great many of the articles printed in the journals of the last ten years have been prematurely published, the number of preliminary notices announcing discoveries under way is very large. The great embryo cannot wait. He is afraid of having his celebrity snatched away from him by the next-door microscopist.

Thus it is that we often find a difficulty in keeping our eye on the great lights, whose rays are always welcome. If learned and thoughtful specialism has its justification anywhere, its field is the solution of the mooted questions alluded to. Thus far I claim, however, that in regard to bacteriology, the main questions are before the medical world still. I firmly hope the Academy will prove the centre of critical researches by which the problem, whether bacteric or chemical poison, still a mystery, will be carried nearer its solution.

In this expectation I am justified by a reference to the historical fragments you permitted me to sketch to-night. There has been no deviation from the empirical and clinical tendency of Anglo-Saxon medicine from the beginning. It was so strong that it gave character to the medicine of the eighteenth century. In the words of the Testament I might say, Sydenham begot Boerhaave, Boerhaave begot Van Swieten, Van Swieten begot John Peter Frank. Sydenham and his generation of followers are the flower of the whole century, and their spirit penetrates everywhere. In those times the senses alone were the diagnostic apparatus. The

material. Thus it may be that the floating poison may become even beneficial. Is it for that reason that patients who have outlived a serious attack of typhoid fever, are endowed with better nutrition and more vigor afterward than they ever enjoyed before?

exact methods of the following decades have sharpened the senses of the English and American medical men, and rendered their observations more accurate and their results more correct. Live and learn has been their pass-word. No new methods have ever been neglected, only unfounded theories ought not to find root in the regular medical profession. As the best features of all experience and wisdom of all ages and all nations have been utilized in the establishment of our political system, thus the American medical mind has received, appropriated, and critically digested the results of foreign scientific labor and added of its own. It is with sincere pleasure that I have again read that interesting collective volume containing a century of American medical history. In it those of you who have not read it will find many a good reason to be proud of the achievements of our country. It is so modest in its tone and contents that many more names might have appeared in the enumeration of men and labors, not to speak of those who have added materially to our wealth of intellectual productions since. Its perusal will be a revelation to many who are in the habit of looking for everything new and trustworthy, and—that is the technical term now-a-days—epoch-making, from abroad. If there is anything which teaches us both justifiable pride and desirable modesty, it is the history of our science in our whole country. For besides a great many of the former and present members of this Academy who have accomplished lasting results, there are a great many other Americans in other States and cities who stand on a level with the best of all nations.

From the reading of old journals, I learned but lately that four years before Semmelweiss proclaimed the contagious character of puerperal fever against the protest of the official standard-bearers of obstetrics in Austria and Germany, our own anatomist, our philosopher, our poet, our autocrat, our own Oliver Wendell Holmes, taught, it is true, against the ridiculing sneers of Hodge and Meigs, the frequent transmission of puerperal fever by physicians and nurses. I might go on a long time, but I do not stand here to extol America or American medicine. Still, I feel strongly that we may be well satisfied with what we, not protected by governmental interference, unaided by a slow growth through centuries, have accomplished in a proportionally short time. The last few decennia gave us the library of the Surgeon-General's office, the subject catalogue, the medical and surgical history of the war, standard books recognized as such in Europe, great journals, and a goodly array of valuable monographs, and vastly improved college education; they have raised great surgeons and clinicians of universal reputation, and a progressive profession whose aim and best efforts are directed toward the improvement of medical training, and the sanitary condition of the people.

All this I firmly believe is true. If it were not, let us make it so. If it be, let us still rise and work, and with all that, let every man among us feel what Holmes said forty years ago: "I am too much in earnest for either humility or vanity."

Dr. Jacobi then introduced Dr. Chadwick, of Boston, who, having presented to the Academy a copy of the latest photograph of Dr. Oliver Wendell Holmes, read an open letter from the latter to Dr. Barker on the occasion of his retirement from the Presidency of the Academy.

CORRESPONDENCE.

DRAINAGE OF CEREBRAL ABSCESS.

To the Editor of The Medical News.

Sir: In the issue of The News for January 10, 1885, is an editorial, viz., "Drainage of Cerebral Abscess," to which I desire to call your attention. From some cause, I failed to notice at the time the editorial in the number for Aug. 2, 1884, to which you refer. But in the issue for January 10, 1885, you repeat the portion of it which I wish to notice, when you say, "Up to that time, August 4, 1884, only three cases of cerebral drainage had been reported." Then in this number you add Dr. Noyes's remarkable case, which appeared in the July number of the *American Journal of the Medical Sciences*, and say: "Unless we greatly mistake, 2d, Dr. Noyes led the way on this side the Atlantic in draining a cerebral abscess. 3d. But the first operation of the kind must be credited to Buchard, whose case is published in the *Deutsche Zeitschrift für Chirurgie*, Bd. xv., 1881." You give the credit, if any, to Buchard, Fluhrer, and Lee, all foreigners, and fail to mention a single American in this connection, except to credit Dr. Noyes for the first operation on this side of the Atlantic, and, as I understand it, Dr. Kemper the second. I am unable to refer to any particular case just now but my own, which was reported in the *American Medical Weekly* for May 9, 1875, but I am impressed with the idea that, in my reading, I have seen more than one case reported by American surgeons. But, let this be as it may, my case alone makes it unjust to your countryman to say that, up to August 4, 1884, there were only four cases, including Dr. Noyes and the first foreigners.

It also proves you are mistaken in giving Dr. Noyes the leadership on this side the "big pond," unless his case occurred at a much earlier than its record in the *American Journal of the Medical Sciences* would indicate —July, 1882.

3d. You are also mistaken in giving Buchard the credit, if any attaches to it, of being the first to use drainage in cerebral abscess. My case occurred on the 9th day of March, 1875, and was read by Dr. C. W. Kelly, of Louisville, before the Kentucky State Medical Society, at its meeting, on the 9th of April, in Henderson, Ky.; but not, as stated in a note by the editor, *sent* to him, but *handed* to him at the meeting, as the writer was present. Its reading called forth considerable discussion at the time as to the local lesion of the brain. However, I send you a copy of the journal in which it was published. You will find it a very similar case to that reported by Dr. Noyes. You will perceive that I advocated drainage, and secured it by position and the use of tents. I did not specify the material of which they were made, but would state here that it was of strands of "saddlers' silk," the material I have continued to use up to the present time, when obtainable; when not, I have used horsehair, and even flax thread. I prefer silk to any other material, except in long fistulous tracks, with sac walls. When these are split open down to the lining membrane, I always use long horsehair, placing as many horsehairs in together as will fill up the original fistulous track, and then bring the edges of the wound in apposition by sutures and adhesive strips, leaving several inches of the hair pro-

jecting at each end of the wound to excite and keep up suppuration and drainage at the same time; and, as the fistula fills by granulations, I draw out the hairs one by one until it has quite healed. But excuse this digression.

I do not know who may have been the first to use drainage in cerebral wounds, consequently I make no pretensions to priority. I believe Dupuytren was the first one who was bold enough to open an abscess of the brain, but whether he employed drainage or not I am unable to say, but it appears to me that *instinctively any* surgeon who had to deal with intercranial suppuration or wounds of the cranium, involving brain tissue, *would think first* of securing the most *complete* drainage, and establish it either by tubes, capillarity, position, or, if necessary, by counter-opening with the trephine, as in Dr. Noyes's case. But it seems to the writer that he might have established sufficient drainage by position, and the repeated changes of silk, renewing, as it were, the capillary drainage, aided by position, without the additional danger of trephining the orbital cavity. Of course, I did not use drainage-tubes in my case, because there was none in use at that time, and I do not suppose that I had ever heard of one, but I never use them now except in very large wounds or large pus cavities; they are too irritating, and in small cavities or wounds I prefer the coarse saddlers' silk, and would use this in draining an abscess of the brain now as I did ten years ago in the case referred to, and which you will find, on reading, somewhat identical with Dr. Noyes's, and similar in its history Owing to recovery, which, in the discussion before the Society I attributed *solely* to drainage, the case is very remarkable, and as it has been a long time since it was reported, I hope you may see proper to republish an abstract of it, whether it be considered legitimately as a case of cerebral wound-drainage or not.

In the March number of the *Richmond and Louisville Journal*, 1874, a remarkable case of "compound comminuted fracture of the cranium is reported by the writer, in which the accident occurred on the 1st of September, 1873. Though extremely grave, yet the unique and novel manner in which the wound was inflicted added to its interest, which was with the point of the horn of an infuriated cow, in a boy of six years. The point of her horn entered the inner canthus of the left eye, penetrating the roof of the orbit, passing upwards beneath the left half (near median line) of the os frontis, making its exit about the suture of the left parietal and frontal bones, just in edge of scalp (patient having a high forehead), fracturing the frontal bone from the inner angle of the orbicular arch to the frontal border, or, in other words, from entrance to exit of horn, tearing skin off forehead and a portion of scalp, and fracturing the frontal bone to within a half inch of the external angle of the orbital arch, throwing the whole back as a door on its hinges, the skin of the temple forming the hinge. The horn ploughed, as it were, a furrow in the anterior lobe of the brain.

"The fracture made near the median line was irregular, leaving midway between the point of entrance and exit, a triangular point of bone, the base of the triangle attached to the right half of the frontal bone. The upper left eyelid was detached beneath the brow at its inner orbital angle and its nasal attachment, for two-thirds of its width outwards.

"The broken bones, four in number, were dissected carefully from the skin and periosteum, the loosed brains removed, and the skin and nearly all the periosteum replaced, apposition being secured by twenty interrupted sutures. A point at the internal angle of the orbital cavity was left open for drainage, which proved sufficient, as the discharge was not very great at any time."

No dressing but cold water. Patient recovered, and is at this writing an intelligent and very robust youth of about seventeen years of age, and has as solid and complete an osseous frontal bone as before the pieces were removed. Though I scarcely mentioned drainage in the report of this case, yet it was a predominating idea with me at that distant period, when I had heard nothing specially said about draining wounds of any description. Then I used a small bundle of flax threads twisted into the drainage opening left for this purpose where the horn entered the roof of the orbital cavity. But as drainage is not dwelt upon, or directly mentioned in this case, I claim nothing for it on this point, and only mention it as a remarkable recovery from extensive injury to the brain, and especially for the unique manner of its occurrence.

In a more recent case of compound fracture of the skull, July, 1880 (never published), in a negro child aged 4 years, produced by the kick of a horse, fracturing the left parietal and posterior border of frontal bone, the skull was crushed in, producing a star fracture, with the points of the star reversed, or terminating in the centre of the fracture.

I found the child comatose, with cold extremities, and pulse almost imperceptible. With a common gimlet, I carefully made a hole in the centre and most depressed point of the fracture, where the points of the star or triangles met, and by cautiously and slowly using it as a lever, I succeeded in raising one of the points sufficiently to enable me to introduce an elevator, and after much manipulation, breaking one of the triangle points in my efforts, I succeeded in raising the three depressed points nearly to a level with the sound bone. The following device was improvised for draining any blood or accumulated fluid, notwithstanding an unfavorable prognosis was given—the case was pronounced hopeless.

A large goose-quill was procured, and both ends cut off; this was threaded loosely with threads of "saddlers'" silk, about six inches in length. One inch of the silk projected from the end of the quill that was intended to enter the opening in the skull made by breaking off one of the angular points, and three inches of silk beyond the external end of the quill. This "rig" was placed in the wound, and the mother directed to keep the child on his left side. Hot applications were made to the extremities, and only cold water dressings used to the head.

In ten or twelve hours, reaction was established; pulse 130 and full, but no signs of returning consciousness up to the fourth day, when he seemed to recognize his mother by following her movements with his eyes. Pulse 105. On the fifth day there was very little, if any, fever, and the patient appeared rational, eating with seeming appetite the milk and bread with which his

mother fed him, spoonful at a time. At first there was only bloody serum discharged from the wound; but on the fourth day this was mixed with pus.

It was impossible to impress the mother with the importance of keeping the wound downward. On every visit, I found the child either on his back or right side. She said she "was afraid of hurting the sore."

On the seventh day I found him again in profound stupor, from which it was impossible to arouse him. The quill-tent had been removed by the mother, "because it was hard to keep in place, and she knew it hurt him." The first objection was true; it was hard to keep in place, but this I have since remedied. On gently probing the wound, I felt projecting into the hole in the skull a *tense* membrane; introducing the tip of my little finger, it felt like the dura mater with pus beneath it. I punctured this membrane with the point of a thumb-lancet, and pure, healthy pus welled out freely; after some hours he could be aroused for a few moments at a time.

On the next day he again appeared rational, and would eat when food was placed to his mouth. He complained of pain when moved; but at no time did he articulate a distinct word. This apparent improvement continued up to about 9 o'clock A. M. on the tenth day from the accident, when he was suddenly seized with a terrible convulsion, and died before it entirely subsided.

It is just possible that this case might have recovered if he had had an intelligent nurse, and but for the extreme ignorance of his mother—his only nurse—with complete and constant drainage of the wound, even after the opening of the abscess, may have saved the child's life.

Since I have frequently used this—sort of compound of tube and capillary drainage—I have corrected its disposition to slip out of the wound, by cutting from the end of a rubber tube, about one-eighth of an inch long, two pieces for each quill; they must be, of course, small enough in calibre to fit tightly on the quill. I force the quill first through the piece of tubing intended for the end that enters the wound, graduating the distance from the end of the quill in proportion to the depth of the wound; secondly, cut a hole a little smaller than the quill through a strip of rubber adhesive plaster, cut in proportion to the surrounding sound parts, then run the external end of the quill through this strip of plaster, placing it up to the rubber shoulder previously placed on the quill; then the other piece of tubing is placed on the quill against the plaster, but external to it; lastly, the ends of the plaster are attached to the skin on each side of the wound. If the wound is large, any number of these quills, filled with silk, or without, may be placed in the wound, in fact, one or more between the sutures if required or desired.

I have had no experience with bone drainage-tubes, but prefer the quills, when long enough, to the rubber. They soften somewhat after immersion in the secretions, but seldom enough to diminish their calibre. Should this happen, a new one is easily made to take its place. In my hands this little "rig" has seemed less irritating and more easily managed, and well adapted to small wounds and ordinary abscesses, and cannot slip in and out of the wound.

J. P. Thomas, M.D.

Elmo, Ky., January 25, 1885.

THE USE OF THE BROMIDE OF SODIUM IN SEA-SICKNESS AND IN THE NAUSEA OF PREGNANCY.

To the Editor of The Medical News.

Sir: In a late number (January 17, 1885, p. 78) of The Medical News, Dr. Reichert reports the result of his experience in the use of the bromides in a few cases of sea-sickness, saying, in conclusion, that in one bad case the bromide of sodium was effectual in large doses. My own experience in the use of this drug for sea-sickness differs somewhat from that of Dr. Reichert, in that I have found that small doses of the salt, administered for a week before embarkation, and continued throughout the voyage, have acted most satisfactorily in the few cases in which I have had occasion to use it.

The employment of bromide of sodium as preventive of sea-sickness was first suggested to me by Dr. Robert P. Harris, in 1883, in the case of three members of my family who were about to voyage to England; all were susceptible to sea-sickness, and one of them especially suffered from the motion even of the ordinary river ferry boats. About a week before they sailed, I began the administration of the salt in ten-grain doses, thrice daily, which was reduced to twenty grains daily after the steamer had left New York harbor. There was but little rough weather, and no one of them suffered any sensation at all approaching sea-sickness.

The prescription was renewed in Liverpool, and about a week before the sailing of the return steamer, one member of the party began taking the bromide as before; the others, relying upon their former immunity, neglected it, the result being that, although the ocean journey was not a whit more stormy than the former voyage had been, the one who was faithful to the salt was the only one who escaped sea-sickness. Since that time I have used the salt in exactly the same way on eleven persons who were about to take sea-voyages, and with perfectly satisfactory results in ten. In one the failure was due, I think, to the fact that the subject discontinued the use of the bromide because of the eruption of acne which it produced.

I do not believe that large doses of the salt are at all necessary as preventive of sea-sickness. I have frequently prevented motion-sickness in myself by taking one large dose (℥j) of the bromide of sodium; but I have also found that three smaller doses (say, gr. x), taken at intervals of four hours before I tried to induce the sickness, were quite as effectual as the larger amount, and I think that it is the gentle continuous action of the bromide which is effectual in preventing sea-sickness, not the tremendous sedative effect of large doses. One of my patients was a lady who, some years before, had travelled to Europe, when the duration of the voyage was nearly twice as long as it is now. She was at that time violently sea-sick, both going and coming, and almost every vaunted remedy was tried without avail. The bromide of sodium was quite sufficient in gr. x doses to give her immunity during her second voyage.

I do not doubt that the salt will prove a disappointment in many cases when it comes to be more generally used. That it was successful in all of the cases in which I had an opportunity to note its effect, I regard as simply a coincidence.

Dr. Albert H. Smith, of this city, was in the habit of

advising his classes at the Lying-in Charity to employ the bromides in the nausea and vomiting of pregnancy, his experience being that the salt invariably modified the severity of that most troublesome and annoying complication, and in many cases removed it altogether. He was accustomed to give the bromide of sodium in large doses (gr. xxx three times a day), and I have found that, in my hands at least, a smaller one has always failed of the desired effect. I have used the salt in twenty-one cases of pregnancy when nausea was present; in sixteen cases the symptom disappeared entirely while the drug was being used; in two cases it persisted, but in a less degree; and in three cases the salt had absolutely no effect whatsoever.

ROBERT PATTERSON ROBINS, M.D.,
Assistant Demonstrator of Clinical Medicine in the University of Pennsylvania.
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NEWS ITEMS.

MONTREAL.

(*From our Special Correspondent.*)

SINGLE KIDNEY.—At the Montreal General Hospital, a single kidney was discovered in a patient who had died from the effects of an injury to the spine. The kidney was of ordinary size, and situated in the normal position of the right kidney. On the left side, no kidney could be found, its place being occupied by a mass of fat; there was only one ureter entering the bladder—that for the right kidney.

NEW SENATOR.—Dr. Sullivan, of Kingston, Ont., who was last year President of the Canada Medical Association, has been appointed by the Government to be sent to the Dominion Senate. Dr. Sullivan is an eloquent speaker, and has been a zealous politician for a number of years. His knowledge of sanitary and medico-legal matters will be of great value in the Upper House.

JEFFERSON MEDICAL COLLEGE.—It is stated that Prof. Mallet intends, at the close of the session of this year, to resign the Chair of Chemistry to which he was elected last autumn, and that he will resume his professorship at the University of Virginia. Prof. Mallet has proved a very acceptable teacher to the medical class at Jefferson, and his intended resignation is greatly regretted.

PROF. OSLER has been granted leave of absence by the Trustees of the University of Pennsylvania, and he sailed last Wednesday for England, where he will deliver, in the month of March, the Gulstonian Lectures before the Royal College of Physicians of London.

ACADEMY OF MEDICINE IN IRELAND.—At a special general meeting of the Academy of Medicine in Ireland, held January 17th, on motion of the General Council, Dr. Austin Flint, Sir James Paget, Prof. Billroth, Prof. Virchow, Prof. Pasteur, Prof. Charcot, Dr. Keith, Prof. Schrœder, Prof. Kölliker, and Sir Joseph Lister were elected honorary members.

ERRATUM.

In the report of the proceedings of the New York State Medical Society, on forty-fourth line of page 156 of our last issue, for "Dr. Mundé," *read* "Dr. W. Gill Wylie."

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM FEBRUARY 3 TO FEBRUARY 9, 1885.

TOWN, F. L., *Major and Surgeon.*—Granted leave of absence for twenty days.—*S. O. 14, Department of Texas*, Feb. 4, 1885.

WATERS, WM. E., *Major and Surgeon.*—Granted leave of absence for one month.—*S. O. 24, Department of the East*, Jan. 31, 1885.

WILSON, WM. J., *Captain and Assistant Surgeon.*—Ordered for duty as Post Surgeon, Fort Preble, Me.—*S. O. 27, Department of the East*, Feb. 5, 1885.

WOODRUFF, EZRA, *Captain and Assistant Surgeon.*—Ordered from Willet's Point, New York Harbor, to Department of Dakota.

TAYLOR, MARCUS E., *Captain and Assistant Surgeon.*—Ordered to Department of the Missouri.—*S. O. 30, A. G. O.*, Feb. 5, 1885.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FROM JANUARY 1 TO FEBRUARY 7, 1885.

STONER, G. W., *Surgeon.*—When relieved to proceed to Washington, D. C., for duty, as Chief of Purveying Division, Jan. 16, 1885.

BENSON, J. A., *Passed Assistant Surgeon.*—When relieved, to proceed to Chicago, Ill., for duty, Jan. 12, 1885.

CARMICHAEL, D. A., *Passed Assistant Surgeon.*—When relieved, to proceed to Cairo, Ill., for duty, Jan. 3, 1885.

AMES, R. P. M., *Passed Assistant Surgeon.*—When relieved, to proceed to New York, N. Y., for duty, Jan. 14, 1885.

URQUHART, F. M., *Passed Assistant Surgeon.*—To proceed to Norfolk, Va., and assume charge, Jan. 12, 1885.

BROOKS, S. D., *Assistant Surgeon.*—To proceed to Evansville, Ind., and assume charge, Jan. 14, 1885.

CARRINGTON, P. M., *Assistant Surgeon.*—To report to Surgeon-in-charge, St. Louis, Mo., for temporary duty, Jan. 17, 1885.

LONG, W. H., *Surgeon.*—Relieved at Detroit, Mich., to proceed to Chicago, Ill., and assume charge, Feb. 4, 1885.

GODFREY, JOHN, *Passed Assistant Surgeon.*—To proceed to Vicksburg, Miss., and Memphis, Tenn., as inspector, Feb. 6, 1885.

BENNETT, P. H., *Assistant Surgeon.*—To assume temporary charge of the Service at Detroit, Mich., Feb. 4, 1885.

WILLIAMS, L. L., *Assistant Surgeon.*—To report to the officer in charge at Detroit, Mich., for temporary duty, Feb. 7, 1885.

RESIGNATION.

MILLER, T. W., *Surgeon.*—Resignation accepted by the Secretary of the Treasury, to take effect March 1, 1885, Feb. 4, 1885.

PROMOTIONS.

STONER, G. W., *Surgeon.*—Promoted and appointed Surgeon by the Secretary of the Treasury, from January 16, 1885, Jan. 14, 1885.

GODFREY, JOHN, *Passed Assistant Surgeon.*—Promoted and appointed Surgeon by the Secretary of the Treasury, from March 1, 1885, Feb. 6, 1885.

APPOINTMENTS.

CARRINGTON, PAUL M., M.D., of Georgia, having passed the examination required by the Regulations, was appointed an Assistant Surgeon by the Secretary of the Treasury, Jan. 16, 1885.

WILLIAMS, L. L., M.D., of South Carolina, having passed the examination required by the Regulations, was appointed an Assistant Surgeon by the Secretary of the Treasury, Feb. 6, 1885.

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

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ORIGINAL LECTURES.

VERSIONS AND FLEXIONS OF THE UNIMPREGNATED UTERUS.

A Course of Lectures delivered before the Boerhaavian Society.

BY ELY VAN DE WARKER, M.D.,

OF SYRACUSE, N. Y.; FELLOW OF THE AMERICAN GYNECOLOGICAL SOCIETY.

LECTURE VII.

THE INTRAUTERINE STEM.

TWELVE or thirteen years ago, when I first took up the subject of the intrauterine stem in a practical way, I quickly found that there was no subject in the whole range of gynecology that would so lay its advocates open to distrust. The teachers and leaders of opinion in America, without an exception, condemned in no moderate terms both the practice and the men who were reckless enough to employ it. Had any of the patients whom I treated with the intrauterine stem met with a fatal accident while wearing the instrument, I do not know of but two or three prominent members of the profession who would have testified that the treatment was legitimate.

The majority of the enemies of this method were men who had never used the intrauterine stem, and had based their opinion upon the experience of others, or had had an unfavorable result in one or two cases. Against this opposition it was useless to bring either arguments or evidence. It was equally useless to contend that the successful use of this instrument implied a distinct gynecological operation, with well-defined rules for the selection of subjects, with indispensable methods of preparation, and, lastly, the use of an instrument that conformed to a few fixed laws of pelvic mechanism.

Opposition has never obliterated the idea; that has remained, and gradually brought over converts to the treatment. It will be interesting to trace briefly the history of this method. From it we shall learn two lessons: first, that a germ of truth in an idea is worth more to human progress than the factional opposition of legions; and, secondly, that the use of the intrauterine stem has been the means of giving stability to many theories of intrauterine treatment.

That this treatment should meet with opposition; that it should have its periods of abandonment and revival, is but the fate of every radical method. In one respect the history of this instrument is anomalous. Its popularity seems to be sectional; and in America it has been, in a measure, crowded out by a surgical operation not unattended with danger, and one that is in no sense a cure of flexions of the uterus.

The report of the Commission to the French Academy of Sciences is the one event in the history of the intrauterine stem to which it owes its ill-repute.

In the light of the quarter of a century which has passed, I believe that that expression of opinion has no longer any value, and that we have ample evidence for a reversal of the verdict.

In order to understand the value that belongs to the formally expressed judgment of the French Academy, it will be necessary to review briefly the grounds upon which that judgment was based. We may see in this two factors: first, the instruments then in use as intrauterine supports; and, secondly, the men who passed judgment upon them.

Such was the character of the debate before the French Academy, that I cannot resist the conclusion that there was a man as well as an instrument on trial; the first upon a question of veracity, the second upon its merits.

Under the circumstances, it is nearly impossible that the participants in the discussion should not have confounded the man with the instrument. It is well known that in 1851 Valleix, stimulated by the report of Simpson in the *Dublin Journal* of May, 1848, made trial of a modification of Simpson's instrument, and published his results in 1851. That two years later, in 1853, in a more elaborate paper, he gave the method of the introduction of his "rédresseur utérine," and the exact indications for its use, concluding with the statement that in 117 cases so treated, 78 were completely cured; in 14 the treatment was wholly favorable; and in the remaining cases there was but slight improvement.

The unpleasant results which Valleix experienced were slight metritis, for which he employed bloodletting and morphia, hemorrhage, which abated of itself, hysterical accidents and febrile symptoms, which were, he said, without significance. That such results were reached in five years in a field entirely new and full of interest, naturally drew upon the author the attention of all gynecologists, and raised in some minds doubts of his veracity.

The effects of Valleix's enthusiasm was soon apparent. In less than a year the first note of alarm was sounded. Strange to say, it was neither Valleix nor his instrument which led to the fatal accident; but it was the result of what we would now regard as either gross ignorance or carelessness on the part of a celebrated man. On the 4th of February, 1854, Broca published the case of a woman who was admitted to the hospital under his care with symptoms of peritonitis; it was found that anteversion existed. From the 7th to the 11th of October inclusive the sound was daily introduced, and the organ restored to its normal position.

On the last day pain followed, and death occurred eleven days later. To us, this experiment of Broca calls to mind but one fact, which we all know: that in peritonitis we are not to sound the uterus, much less introduce an intrauterine stem. In 1854 this experiment and its results had a much broader significance. It seemed to establish the fact that the new method of intrauterine mechanical support was one full of danger to life. The heroism of Broca in publishing his case encouraged others.

It was discovered that Aran, Nélaton, and Cruveilhier

had likewise lost cases; not from an imprudent use of the sound, but of the rédresseur. From these cases resulted the appointment of Depaul, Huguier, and Robert as a commission, on the part of the Academy, to examine critically the merits of the rédresseur, the chief result of which was the report of Depaul. The character of this report we all know. It excited in the body of the Academy considerable mistrust of the validity of Valleix's results.

Depaul reported twenty-seven cases of Valleix, Gaussail, and Piachaud, which had been treated with nominally good results, but were afterward ascertained to have been followed by many bad results. P. Dubois related that he sought out many of the women who were discharged by Simpson and Valleix as cured, and found them still suffering from the displacement. On the formal expression of opinion by the Academy, it is needless to comment in full. It condemned all forms of intrauterine mechanical treatment, although there was evidence to condemn but one—the rédresseur of Valleix.

It may have expressed the opinion of the Academy as a body, but it did not express that of the members individually.

The majority of the Commission itself dissented from the sweeping report of Depaul. Huguier and Robert asked that the rédresseur be not unconditionally rejected. Hervey de Chigoin, Velpeau, Latour, and others opposed the opinion of the Academy. But dissent was without avail. It was an expression of a majority, the force of which existed in numbers, not in truth.

Instead of there being evidence before the Academy sufficient to condemn both the theoretical and practical employment of all forms of intrauterine mechanical support, there was proof of the dangers attending the use of a single, very imperfect instrument.

Valleix modelled his rédresseur after Simpson's intrauterine stem of 1848; yet, nearly alike as they were, they exist in history as two very different instruments. That of Simpson had a very worthy career; so far as actual danger of life was concerned, the most complete condemnation that it ever received was the fact that its inventor himself finally abandoned it.

The instrument of Valleix was made famous by a series of fatal accidents. The inventor was evidently in doubt as to what was really necessary to the proper intrauterine support of the organ. He first made them of six, then of five, then of four centimetres in length, and finally just as short as possible. While he was thus shortening the stem, he was overlooking a serious mechanical defect. Upon the stem of Simpson there is a flange which supports the external os; Valleix supported the uterus by an inflatable ring pessary distinct from the stem, omitting the flange, and thus allowing the uterine fundus to rest upon the end of the instrument so as to be irritated or seriously injured. However short he made the intrauterine part, or changed the curve of the external support, it was in danger of penetrating too far. Thus, to the sound of Broca, and the unfortunate rédresseur of Valleix, we owe the unfavorable verdict of the French Academy.

At Vienna and Berlin, at nearly the same time, opposition was not less marked, or debate less heated; but approval and disapproval were individual expressions of opinion. There was no effort to create an *index expurgatorius*, after the manner of the French Academy, or to make a theatrical proclamation of proscription as an official act. Unscientific as this proceeding was, however, the effect was quite a general abandonment of this mode of treatment.

Fifteen years passed before the reaction set in, an interval marked here and there by a paper in the periodical press, from the pen of some one who was cautiously working at the problem. The debate in 1868 in the London Obstetrical Society signalized the period of revival. An animated discussion in the Association of Physicians and Naturalists, at Dresden, in the same year, indicated that this revived interest was widespread. This brings us to the second period in the history of the intrauterine stem, which was characterized, not so much by the invention of any decidedly new form of mechanical appliance, as by a total abandonment of the stem with external support.

It having been shown that the decision of the French Academy was based upon this abandoned form of instrument, and included all forms of intrauterine support; not by direct evidence, but by hasty theoretical inference, it follows that, if like unfavorable facts cannot be brought against properly constructed instruments of the second period—those with intravaginal support—the decision of the Academy must be reversed, and the proper use of intrauterine pessaries be given a legitimate place in gynecic surgery, unhampered by timidity or doubt.

The earliest record we have of death from a stem without extravaginal support is referred to by Amussat about 1828. So far as I am able to find out, the report of a fatal result from the use of the "petite tigi droite en ivoire," by Amussat, comes to us at third hands. Raciborski refers to a thesis by Dr. Quetier (1828), and states that Amussat found the dangers of this treatment confirmed. Tilt states that the case terminated fatally, and assigns the date to a year earlier than the thesis of Quetier, but gives no reference.

Now it is not a little singular that Raciborski does not refer to a fatal case under the care of Amussat, and that it should have escaped the careful research of Winckel, who was obliged to refer to the unsustained authority of Tilt in the matter of this case, adding the comment that this statement does not wholly agree with that of Quetier: "Dass dieses Verfahren mehrere Male geglückt sei."

The statement of Tilt that fourteen fatal cases are known to have occurred in France, America, England, and Scotland, is frequently referred to by the opponents of the intrauterine stem. I do not wish to impugn the veracity of Dr. Tilt, but it is not usual to make statements of such vast importance as this in so summary a manner in other departments of science. No American author of a treatise upon gynecology that I have ever seen makes any allusion to a fatal case in America. Hodge, who ought to know of a fatal case, as late as 1868, says: "In America we have seen no favorable report of any importance. The writer has heard of its employment in some cases, but with no permanent advantage."

At this period in the history of the intrauterine stem, the centre of activity was transferred to England. In 1864 Dr. Greenhalgh exhibited his intrauterine instrument. In 1865 Dr. Aveling exhibited an intrauterine

spring pessary, which he called a spring tent. The next year was remarkable for the number of new instruments offered to the profession. Dr. Aveling presented to the Obstetrical Society the intrauterine stem of Dr. Graham Wier, belonging to the diverticulating class. Dr. H. G. Wright published the description of his instrument belonging to the same class as the above. The instrument of Dr. Meadows was also presented at the same time. While Dr. Aveling concluded the progress of the year in the mechanism of gynecic surgery by bringing to the notice of the profession a flexible stem of coiled wire, which, as late as 1873, he suggested might be united with the flexible rubber stem of Dr. Squarey. In 1869 the instrument of Dr. Routh was brought forward; that of Dr. James Young, of Edinburgh, in 1870; that of Dr. W. S. Playfair in 1871; that of Dr. Wynn Williams in 1872; that of Dr. Thomas Chambers in 1873; those of Mr. Lawson Tait and Dr. Squarey in the same year. On Wednesday, December 3, 1873, occurred a remarkable event in the history of the intrauterine stem. On that day, Dr. G. C. P. Murray, Dr. A. Wynn Williams, and Dr. T. Chambers each presented to the London Obstetrical Society a new form of the instrument. Dr. W. Ross Jordan presented to the Society a new form of intrauterine stem in 1874; Dr. Eklund, of Stockholm, Dr. Amann, of Munich, Drs. Clement Godson, G. Granville Bantock, and James Young, of England, each offered an instrument to the profession in 1874.

In 1860 Dr. Edward Martin improved Simpson's second form of instrument. C. Braun used advantageously a hard-rubber stem of his own invention (1864). Olshausen devised a new form (1867). In the same year Hildebrandt introduced an intrauterine stem made of lead. Dr. H. Beigel, in 1873, and Dr. Dühring, in 1874, each described new forms of the instrument.

In the United States, Dr. Peasley claimed advantages for two instruments of his devising (1866). Such inventive activity is only equalled in the history of one other instrument in the literature of gynecology—the obstetric forceps; and no other instrument, not even excepting the last named, can show a more brilliant array of careful, conscientious inventors and observers.

While the principle of construction of these instruments had changed in this second period, so also had the character of the opposition to their employment. The occurrence of no fatal case from their use any longer gave opportunity for the most potent of all arguments against them.

The mind of the profession was thus prepared to examine more carefully into the merits and demerits of this plan of treatment, and to understand both the proper construction of the instruments and the limits of their use.

I have but one other item to add to the history of the intrauterine stem. It transfers the interest to American gynecology, and to my mind gives additional lustre to a famous name. I received the following letter from Dr. Sims, which I transcribe entire, except a brief paragraph which relates exclusively to a personal matter of his own:

12 PLACE VENDOME, PARIS, Feb. 12, 1879.

MY DEAR DOCTOR: I am just now writing my chapter on displacements of the uterus, and in looking over authority at my command, I do not find your early papers on flexions. I have only your "Present Status of the Intrauterine Stem," etc., in the second volume of the *American Gynecological Transactions*. May I beg you to send me what you see I need, to do you and the subject full justice? I will return the documents if you have no duplicates. From awkward and badly conducted experiments in the early days of my experience, I was unfortunate with the stem, and I gave it up entirely; but I have now come round to your way of thinking, and I see and understand why I failed in my early experiments. Thanking you in advance, my dear Dr. Van de Warker, believe me, yours, very truly,

J. MARION SIMS.

The pleasure this letter gave me is now tempered with a sad regret, which you will all share with me, that Dr. Sims did not live to complete the work upon which he was engaged, and which, had it been completed, would have placed the intrauterine treatment of flexions upon a secure and scientific basis.

If one contemplates the treatment of a case of uterine flexion by the stem, one question must first be answered: Is it a suitable case? There are many pelvic conditions that forbid the use of the instrument. One condition is very common, and is more frequently associated with flexions than with other uterine displacements. This is pelvic inflammation—pelvic peritonitis and cellulitis. For our purpose it is not necessary to make any distinction between them; they are one disease. Speaking generally, they contra-indicate nearly all uterine manipulative treatment; but, so far as the endometrium is concerned with this surrounding condition, it is forbidden ground. The same rule applies to the stem as well as intrauterine medication, or the introduction of the sound. The acute stage no one is liable to mistake; but in the chronic state, in which we have to contend with its products in the form of pelvic indurations and adhesions, the contra-indications are not always so clear. It needs at times a very careful touch to establish the fact of uterine adhesion, especially when elongated, as Winckel shows beautifully in the illustrations to his *Pathologie der Weiblichen Sexuel-Organe*.

When we have to do with the non-suppurative products of inflammation, we must remember that we are dealing with a state not many removes from that condition itself. Therefore, so long as adhesions persist, we are in constant danger of a relapse, and nothing will do this so surely as uterine manipulation, especially that directed to the cavity of the organ. If I were to draw the line between the amateur and expert gynecologist, I should say that the former finds his methods attended with frequent complications, either primary or secondary, of pelvic inflammation, while the latter never has them. If, then, you find that the introduction of an intrauterine stem is followed by cellulitis, accuse yourself, or the form of the instrument, not the principle. You have mistaken your case, or failed in your manipulative tact.

Another class of women whom it is very difficult to treat with the intrauterine stem is the anæmic neurotic; and yet no class demands thorough treatment more urgently. Their pelvic organs are the seat of such active subjective symptoms, and the mental impressions will shift so quickly, that it will be difficult, if not impossible, to convince the woman that the presence of the instrument is not the cause of the pelvic distress.

If a patient of this character should have a friendly interview with a physician, and if, with the delicacy and kind regard for the reputation of a medical *confrère*, which is a leading trait of the profession, he were to inform her that the wearing of an intrauterine stem frequently proves fatal, you would find her at once to suffer such agony of mind and fear of death that you would have no alternative except removal of the instrument. Days, and it might be weeks after, would be spent in reëducating her, so that the instrument could be borne with mental comfort. I mention this because I have had the experience, and to make clear to you that we have a mind as well as a flexed uterus to deal with.

In these anæmic cases we meet with instances of great hyperæsthesia of the pelvic organs. If present in intense form, it would amount to a contra-indication. Usually this condition may be treated in connection with the preparatory measures to be shortly described. Pelvic tumors of any form would forbid the employment of the stem. Lacerations of the cervix would require to be repaired before the use of the pessary; and lacerations of the perineum, if extensive, might interfere with the action of the vaginal retaining part to such an extent as to make it very difficult to keep the stem in place.

Some cases of flexions are attended with frequent, prolonged, and profuse menstruation, which ought to be treated before the use of the stem. Such a state may be the direct outcome of the flexion, due to a strangulation of the uterine wall, and for which the stem would be efficient treatment. Speaking generally, however, my first statement would be the safer one to follow.

Now, having a proper case to treat with the intrauterine stem, I always begin with preparatory treatment. This consists in the use of the uterine probe, or sound. I call it training the uterus, and by it I expect to establish a tolerance of a foreign body in the cavity. I first wisely adapt the curve of the sound to the uterine cavity, and then gently introduce it, making no effort to straighten or replace the uterus. The introduction, even when very gently accomplished, is sometimes attended with pain. I leave the sound in place for from five to ten minutes, and the pain usually subsides; if not, I remove it, and the next day, or the day after, I repeat the operation, and do so until I find that the pressure of the sound no longer excites any pain. When this result is reached, I regard my patient ready for the use of the stem. This training of the uterine cavity is a measure closely related to like manipulations in other departments of surgery. The laryngologist so trains the fauces to bear the pressure of the mirror, and the genito-urinary surgeon will in like manner relieve the hypersensitive urethra. I have good authority for carrying the analogy still further. Paul Dubois contends that the stem pessary relieves by modifying the abnormal sensitiveness of the uterine cavity, just as a sound cures neuralgia of the neck of the bladder; while Malgaigne cites the case of a woman who was suddenly relieved of pain by the stem, the flexion being uncured. To those who have had considerable experience of the intrauterine stem, these cases are not unusual.

In some cases, by no means rare, it is not necessary to train the cavity, as the organ exhibits no intolerance of the instrument. The state of primary tolerance is usually found in long-standing cases of acquired flexions. The developmental flexion in young and nervous women requires the most careful preparatory treatment. This employment of the sound or probe serves another very useful purpose, It is very sure to correct any error you may have made in regard to pelvic conditions unfavorable to the use of the stem. Other complicating conditions attending the flexion may be treated on the principles already laid down. Since the publication of Dr. Mundé's paper on lymphadenitis, in the *American Journal of Obstetrics*, I have been able to recognize several cases of acute adenitis in the parametrium in connection with flexions of the organ. I am strongly of the opinion that this complication ought to be treated before the introduction of the stem. It would occupy too much space to enter upon the details of diagnosis and treatment of this complication here, for which object I take pleasure in referring you to Dr. Mundé's very able paper.

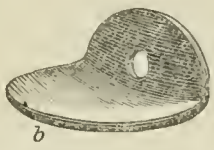
Conceiving our case to be a proper one for the employment of the stem, and the patient also in proper condition, it is now necessary to say something about the instrument itself. Of course, I have had my own model with which I have worked successfully for years, but in all I have written upon this subject, I have not said so much upon my own or any particular form of the stem as I have upon the correct principles of construction of the instrument. If a physician who is fairly familiar with pelvic manipulations has a correct idea of the theory of the stem, he may be trusted to employ it with safety and advantage.

An intrauterine stem must be made with reference to a few principles which I believe to be unalterable. First, the stem must be shorter than the cavity of the uterus, and so small in diameter that neither the outer nor inner os is stretched or occluded. Secondly, it must be supported wholly from within the vagina. Thirdly, the retaining part must be of such a size that it will not interfere with the action of the bladder or rectum, or with the comfort of the patient, and lastly, the retaining part must be of such a form and so adjusted to the vagina that it will not restrict the normal uterine mobility. In order to comply with the latter condition, we cannot limit ourselves to any one form of the retaining part. It is sometimes a difficult problem to solve so to adjust the retaining part to the vagina, that the stem is held securely in place while the uterus is not fixed immovably within the pelvis. The expulsive power of the uterus is, in some cases, considerable, and this power is usually exerted during menstration, when you are most anxious to keep the instrument in place. I have never yet failed to accomplish this, but in doing so I have invented quite a variety of vaginal attachments. In some cases it is better to readjust the instrument when it becomes displaced than to make the retaining part too secure, as in the latter the freedom of movement of the uterus may be too much restrained.

Anteflexion, like all forward displacements of the uterus, is the most difficult to replace and retain comfortably in position. The vaginal part differs materially from that of the retroflexion form. The idea was borrowed from Amann, but in his form of the instrument the vaginal attachment was rigidly attached to the stem, and the instrument was made to act in both forms of flexions by wedging cotton behind the vaginal flange in anteflexion, and before it in retroflexion. In

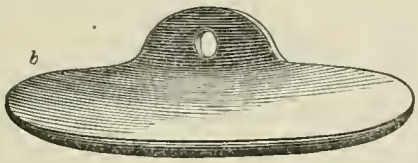
my modification the flange impinges against the posterior vaginal wall, and serves to correct excessive version. Fig. 1 shows the ordinary form of the anteflexion flange.

Fig. 1.



In Fig. 2 we have the same form modified so as to meet the difficulties offered by a short and very capacious vagina.

Fig. 2.



The scant dimensions of the vagina of the virgin required a further change in form, which is shown in Fig. 3. These cuts are taken from flanges that have

Fig. 3.

been used, and were invented specially for each case. I have said that this idea was borrowed from Amann; I ought to have said, however, that I had devised the anteflexion flange before I had seen his book, *Zur Mechanischen Behandlung d. Versionem u. Flexionen d. Uterus*, and that his published account antedates my own.

The retroflexion flange is a simple button-like attachment (Fig. 5). It is passed over the end, *a*, of the stem (Fig. 4) by means of a wire passed into the end of the stem. This attachment is also made of various

Fig. 4.

Fig. 5.

sizes to meet special difficulties. Tiemann & Co. make them for me, different in some respects from the one figured, which is solid except the central opening at *a*; the later form has large fenestra cut out of the solid portion, which gives the flange superior retaining power over the solid form, and affords ready exit to the secretions of the cervix. This form generally converts a retroflexion into a retroversion, but after years of work with this instrument, I have come to the conclusion that this is better than further to complicate the instrument by attachments to correct the resulting version. This can be better done after three or four months, when it is no longer necessary to wear the stem, by an ordinary pessary with the proper curve. In these cases we must not attempt too much, but be satisfied with making progress slowly. Patience and gentleness of manipulation must be cultivated as an art by the physician who aspires to treat uterine flexions successfully. I have on very few occasions used a flange larger than the one shown in Fig. 5. It will happen now and then that the flange and stem will get displaced. The remedy is a very simple one—replace them, remembering that if a stem is so securely held in place by the vaginal attachment that it cannot become displaced, it is probably too good a "fit," and the patient cannot wear it.

The introduction is a simple matter. The cervix is exposed by the Sims's speculum, and held gently but firmly by a volsella forceps. The stem is placed upon a wire and is passed into the uterine cavity in the same manner as a sound. The flange is slid over the wire as a guide and carried up to the stem, and by a little manipulation passed upon the stem until it fits firmly against the shoulder of the stem, at *a*, Fig. 4. At times, difficulty is met in passing the flexed point of the uterine canal. In this case a sound with a proper curve is first introduced, and the uterus straightened and held in that position for a minute or two, and then as the sound is withdrawn pass in the stem, before the uterus can recoil into its flexed form. If the stem should not freely enter the uterus, use the sound a second time, and again try and pass the obstruction with the stem. Remember that at no time is force to be used; if you were to lose your patience and the woman become tired, stop and try again some other day, rather than attempt to force the stem through the obstruction. I have never yet been obliged to resort to an anæsthetic in the manipulation I have just described; on the contrary I prefer to leave the patient alert to every sensation, and guide myself accordingly. If there is any pain after the introduction of the instrument, keep the patient warm in bed until it abates. At one time, I introduced the stem at my office, which I rarely do now; in fact, I do not believe that any form of intrauterine treatment is proper office work. I make a rule to do this at the patient's home, or in my private sanitarium.

Vaginal irrigation should be carefully carried out during the time the patient is wearing the stem. Constipation should be prevented, as difficult defecation is a frequent cause of displacement of the instrument. When the stem is nicely adjusted and is well borne, I allow it to be retained for two or three months. I then remove it and observe the case through a menstrual period in order to form an idea of the extent to which the patient has been benefited. If necessary, the stem is replaced, or a version pessary is substituted for it.

You cannot impress too strongly upon the mind of the patient, the need of regular visits at the office while the stem is in position; and, also, that it must be removed at a certain time. Notwithstanding all this caution, they will occasionally keep away, and wear the

instrument for many months. One of my cases retained the stem for over a year; purposely, however, as it gave her great relief from a severe dysmenorrhœa. Another precaution that I have observed in recent years, I feel it a duty to impart to you: I never employ the stem in strange patients, but wait until such a degree of mutual respect and confidence is established that I feel sure that the patient will remain under my care, or the care of a friendly physician, during the whole period of stem treatment; otherwise she may leave you while wearing it, and pass into the hands of a hostile doctor, or, what is just as bad, a friendly one who has a great fear of the intrauterine stem, and who will take from his library shelves the text-books written by several of my friends, and demonstrate to the patient the great danger of the instrument and her own narrow escape.

It is no part of my plan in this lecture to bring forward arguments to prove that the intrauterine stem is harmless and a legitimate method of treating flexions. I hope that at some future time I may be able to analyze and tabulate all my cases of uterine flexions so treated, which give good ground for my own faith in the instrument within the limits and precautions I have always observed, and which I have always taught. I may briefly state what my experience in its use has been. It has often surprised me with what comfort the properly adjusted stem can be worn. Menstruation is often undisturbed, quite often, however, it is somewhat more free and lasts a little longer; and then, on the contrary, I have introduced it in cases attended with menorrhagia, and found the discharge to become normal in time and quantity. It is my rule, in common with all physicians I believe who use the stem, to instruct the patient not to indulge in sexual relations while wearing it, yet it illustrates with peculiar force how little functional disturbance the stem may excite when I mention that Olshausen, in an artitle on "Conception unter Ungewöhnlichen Verhältnissen," in the *Archiv f. Gynäkologie*, vol. ii. p. 280, mentions two cases in which pregnancy occurred while the stem was present. In one case, the stem and ovum occupied the uterine cavity together twenty-seven days, and in the second case twenty days. Dr. Goodell, in the debate on my paper on the instrument, read before the American Gynecological Society at Boston, in 1877, mentions a third case of pregnancy under the same conditions.

One other precaution I have always observed, and with which I shall conclude this long and, I fear, tedious course of lectures. Whenever I find that the stem creates pelvic pain which does not subside of itself, I promptly remove it, just as I would any other pessary under like circumstances.

ORIGINAL ARTICLES.

REPORT OF A CASE OF PELVIC ABSCESS, COMPLICATED WITH A SEPARATION OF THE SYMPHYSIS PUBIS.[1]

BY S. D. THRUSTON, M.D.,
OF DALLAS, TEXAS.

MRS. D., a healthy, plethoric, American woman, 40 years of age, and weighing 150 pounds, began labor about 6 P.M., December 5. 1882. Saw her at 7 P.M.; found nature doing her work well, and safely. The progress was exceedingly good. and at 11 P.M. delivered her of a healthy boy. In the next thirty minutes the placenta was delivered, followed by a sharp hemorrhage, which was easily controlled. Remained two hours, ordered 10 grs. quin. sulph. at 6 o'clock in the morning, and gave instructions to keep her perfectly quiet.

Dec. 6.—Patient bright and happy; uterus well contracted; lochia free and pure; no tenderness; passed urine freely. Ordered 10 grs. quin. sulph. at noon, and night, and next morning.

7th.—Bright and cheerful, but complained of soreness in lower part of abdomen. Tactile examination revealed no peritoneal or metritic tenderness. Lochia free, and void of odor. Temperature and pulse normal. Ordered quin. sulph. grs. 10 at noon, and night, and next morning.

8th.—Thoroughly cinchonized; bright, but still complained of soreness in lower part of abdomen. Temp. 99½°; pulse 86. Examined, as was thought, thoroughly, and still detected no signs of impending trouble. Was in the act of leaving, when she said: "Doctor, you have not touched the sore place yet." Returned to the bed, and asked her to place the hand on the offending spot, when, strange oversight, the symphysis was the "sore spot," and examination disclosed the fact of a separation of the bones, the inter-articular cartilage being softened. The two bones moved upon each other with a peculiar cluck when either half of the pelvis was elevated, and caused great pain. Made a bandage similar to the body of a pair of drawers, with eyelets and lacings reaching from the lower margin of the pubis to the umbilicus, and a perineal band to prevent riding. This, when firmly laced, brought the two bones in close approximation; and by partially controlling the hip-joints, fixed the pelvis to a great degree, thereby preventing the edges of the bones from slipping upon each other, and giving much relief. Ordered quin. sulph., as for the preceding day, with the addition of morph. sulph. gr. ¼ every six hours.

9th.—9 A.M., nervous, fretful, and suffering much pain, notwithstanding morph. sulph. gr. j in the past twenty-four hours. Temp. 101°; pulse 100. No milk. Lochia void of smell, and normal. The external tissues over the pubis, and extending toward the left, were much tumefied, and very tender; mucous membrane of vagina hot. Directly under the arch there were thickening and perceptible induration extending along the roof of pelvis to the left; micturition free, and painless. Bowels moved in the early morning unaided; action healthy and non-offensive. Ordered hot linseed meal poultice to cover the entire inflamed surface, and to reach up as high as the umbilicus, the bandage to be laced over it. Hot water douche per vaginam, for fifteen minutes at a sitting, to be repeated every four hours. Quin. sulph. as on the preceding day, and morph. sulph. gr. ¼ every four hours.

P.M., quiet, but very tender to the touch. Lochia normal. No tenderness of body of uterus. Temp. 101½°; pulse 108. Ordered same treatment continued through the night.

[1] Read before the Dallas County Medical Society, 1884.

10th.—General condition not materially changed; more external swelling reaching in the direction of left inguinal region; more induration in roof of pelvis; tissues in floor, and in direction of left broad ligament, healthy; no lateral tumefaction internally to correspond to the lateral external swelling. Temp. 100°; pulse 108. No milk. Micturition painful, and difficult. Treatment same as previous day.

11th.—General condition about same; no diminution of the inflammatory process; indeed, rather increasing. Temp. 100°; pulse 108. No milk. Unable to micturate. From this day the catheter was necessary twice daily. The bowels were very regular, moving about once in thirty-six hours without aid of any kind, and in spite of the large amount of morphia used. The same treatment was continued, except an increase in the daily quantity of morph. sulph. to 2 grains, and diminution in quin. sulph. to 20 grains. The cellulitis gradually developed into a circumscribed phlegmon, which, on the 20th of December, could be easily detected occupying the left half of the pelvis anteriorly, and involving the tissues in front of and between the neck of the bladder and os uteri, as well as the cellular tissue lining the roof.

The hot douches were discontinued, as the pipe seemed to produce more pain than the hot water gave relief. From this time to the 29th of December, the condition of the patient was grave. Daily temp. 100°; pulse 120. Poultices to the tumefied surface. Quin. sulph. 20 grs., and 2½ grs. morphia, every twenty-four hours, constituted the medication, together with the free use of brandy. Phlegmon increasing in size, and patient beginning to show signs of hectic. Thus matters were up to the 29th. Bandage was removed on the 23d.

29th.—Wishing for assistance, I was requested to ask my friend Dr. John Pace to see her. Found the left anterior half of the pelvic cavity, extending from the symphysis up the left groin, well filled with the tumefaction, which was not so tender to touch. No evidence of pus, now so anxiously sought. Temp. 100°; pulse 120. Same treatment in every respect continued.

Jan. 16, 1883.—Since the consultation with Dr. Pace, the case has run on in the same groove. Patient holding her own. No increase in size of swelling, which is evidently preparing to break down. Temp. 100°; pulse 120. Brandy has relieved the signs of hectic. To-day could detect slight and deep fluctuations near the os vaginæ, a little posterior to the left labia, and directly under the pubic arch.

17th.—With Dr. Pace, made another thorough examination, and found evidences of pus; but so deep, concluded to wait the more thorough breaking down of the mass, notwithstanding the critical condition of the patient

19th.—With the assistance of Dr. Pace, the patient having been put under the influence of ether, a free incision with the bistoury was made, at the line of junction of mucous membrane and the skin of the left labia, when the fluctuation indicated the pus to be nearest the surface. With a forcible jet, a large quantity of very offensive sanguineo-purulent matter discharged itself. So large was the amount, and the shock threatening life, it was deemed prudent to check the flow. The incision was closed with a tent and compress of carbolized cotton, and the patient allowed to rally, which, under the influence of brandy, took place promptly. She pronounced herself more comfortable than for a month, yet the size of the tumor externally was not reduced.

20th.—Removed dressing, no discharge following; cavity was washed out with a solution of iodino-carbolized water until it returned free from stain. Used simple dressing of compress of carbolized lint—no tent—with emollient poultices externally. Temp. 100°; pulse 100.

21st.—Same condition of affairs, except rather more cheerful and much improvement in general facial expression. Temp. 100°; pulse 106. Continued treatment as on previous day.

22d.—M., severe rigor for more than an hour; great vital prostration; expression anxious; respiration shallow and sighing. Pulse 160. Rallied thoroughly by 2 P.M., under the influence of local heat, with hypodermatic of brandy and morphia.

6 P.M., fever very high. Temp. 106°; pulse 140. No pain and very slight tenderness over the tumefied surface. Treatment general.

10 P.M., fever declining. Temp. 105°; pulse 130.

23d.—1 A.M., fever still declining. Temp. 103°; pulse 120. Bathed in profuse sweat; rubbed surface dry with a coarse towel and then well with pulverized dry mustard; gave $\frac{1}{60}$ of a grain of atropia hypodermatically.

3 A.M., much improvement; surface soft, moist, and pleasant; sleeping quietly. Temp. 101°; pulse 120.

9 A.M., removed compress, explored the abscess cavity with a No. 9 rubber catheter, which was followed by the free discharge of a full quart of laudable pus. No shock or prostration. Washed out cavity as before, and inserting a thin carbolized tent of lint for drainage, dressed over all with antiseptic cotton. Temp. 99.5°; pulse 105.

6 P.M., has done remarkably well all day. Temperature and pulse same as morning.

24th.—9 A.M., slept soundly all night and is much refreshed. Feels hungry; remarkably bright and cheerful. Removed dressing. Three or four ounces of healthy pus discharged; dressing in all respects the same. Temp. 99°; pulse 96.

6 P.M., quiet and comfortable all day, and for the first time in forty-six days the temperature and pulse are normal. Continued treatment.

25th.—9 A.M., convalescence absolutely commenced. Temperature and pulse normal; slight discharge, no external tumefaction, and no tenderness or induration per vaginam. The walls of the cavity in close proximity; difficult to use the wash in consequence; spirits buoyant. Reduced the medication to five grains of quinia sulph. with morphia sulph. one-half grain morning and evening.

26th.—Still improving. Abscess cavity very shallow and discharge slight. Steadily improved from this date on to final discharge. The medication was restricted now to quinia and iron. No morphia being required to procure sleep or quiet pain, I

thought best to cut it off at once, as the disposition to the habit was very pronounced.

Feb. 7.—9 A.M., made a thorough examination per vaginam and rectum, both tactile, and with the speculum. No malposition or tumefaction to be detected in or around the uterus or its connective tissues; symphysis firmly united, abscess walls united and healed up to, and including the external wound; eschar small and smooth; health established. Recovery perfect. Nothing has been said about the adjuvants to the medical treatment. The medication during the entire time was confined to morphia, quinia, and brandy pro re nata. Atropia was used once. No purgatives were indicated, as the bowels were absolutely regular and dejections healthy. Hot water, made antiseptic with iodine and carbolic acid, was used per vaginam, and poultices externally. The main adjuvant, diet, consisted of eggs, milk, mutton, and beef soup, well boiled game and fish, with every alternate morning a plate of oatmeal mush, well cooked. The nursing was of the best, and aided materially in bringing the case to a happy conclusion. There was at no time—nor has been since recovery—any mammary secretion, nor even the least attempt at such natural function. The symphysis was so firm at the end of the fifth week as to allow the removal of the bandage.

In passing, it will be interesting to know that in her first labor—this being her second—she gave a clear and positive history of separation of the symphysis—not followed by cellulitis,—on account of which she was unable to walk for six weeks after delivery.

In reviewing the literature of this subject, but one author—Trousseau—alludes to this accident as a cause from which pelvic cellulitis may spring, and he is vague and indefinite in his language.

There are two points of interest in the subject which gave rise to this report, viz.: The cause and character of the cellulitis and the point of evacuation. Of all the causes laid down, parturition is the most frequent, and the character of the same is so general, that English surgeons give it the name "pelvic cellulitis." The French consider all such inflammatory processes as complications simply of "periuterine cellulitis." Thomas and Emmet lean very decidedly to the French nomenclature, while all speak of it as diffused, almost denying any phlegmonous nature. Of all other causes, nothing is said about a separation of the symphysis. That the inflammatory process in this case began from this cause is proved by the tissues involved. That it followed the course of a phlegmonous inflammation is made positive by tactile examination and its close confinement to the tissues in which it began. Beginning in the areolar tissue in front of and between the neck of the bladder and uterus, it involved in its development those tissues only which lie adjacent to and line the left half of the roof of the pelvis; although extending well up into the left inguinal region, the tissues there were only affected by the pressure of the growing phlegmon, and did not become part and parcel of the same. That it did begin in the cellular tissue covering the symphysis is arrived at from the fact that it was the first point of tenderness, and for three or four days the pain and soreness were confined exclusively to those parts. Advancing laterally, it confined itself literally to the left anterior segment of the pelvis, never invading the cellular tissue of the broad ligament or dipping down so as to reach that around the rectum. This was proved daily by rectal examination, while at the same time there was perfect regularity in the function of that organ, unattended with difficulty or pain. During the entire time the catheter was required twice daily to empty the bladder. In the left groin externally it gave to the touch the sensation of a well-defined and circumscribed tumor, and not that of a general induration and tumefaction of the whole superficial and underlying tissues. *Per vaginam*, the anterior wall, from the neck of the bladder and uterus to the left as far as the finger could reach, was tumefied and corrugated, and until the dimensions increased so largely the finger could pass upwards beyond the margin of the tumor, and downwards behind it, easily learning that the floor of the posterior left half of the vaginal wall was free from any complication whatsoever. The os uteri was tender, but passing the finger behind the posterior lip, either per vaginam or rectum, there was no swelling or pain in that organ. With the finger in the above position, the fundus could be handled with impunity by the other hand on the abdomen.

With these lights, therefore, it was very natural to arrive at the conclusion that the cellulitis was of the phlegmonous variety, notwithstanding the teaching of the learned authors, and that it had its origin in the tissues lining a divided symphysis. According to Thomas, so generally does "periuterine cellulitis"—it is by this name he describes all cellular disturbance of the pelvic cavity—involve all the adipose and areolar tissue of the pelvic cavity on the side where it begins, and so rarely is it purely phlegmonous that it remained for M. Simon, about 1853, to publish the only case, proved by autopsic evidence to be phlegmonous, and from comments of the celebrated gynecologist it is to be inferred that this case was to him of very doubtful nature. That the case here in point was no more nor less than a large phlegmon is based upon the evidence of *touch*, gathered from daily examinations, together with the closest watching and arduous search among the literature for any facts which might throw light upon the subject. The case was not only extremely serious to the patient, but interesting to the medical attendant, and for these reasons as many as six visits in the twenty-four hours were frequently made to perfect the diagnosis, and watch the safe progress of the case.

This brings us to the second point of interest, viz., the point of evacuation. All authors agree that one of many, and sometimes two, points simultaneously may be selected by a pelvic abscess to evacuate itself, but not one of them has ever hinted at the labia as a probable or remote point of exit. It is well known that pus in finding an outlet, by preference follows that course which offers the least resistance. That the labia therefore offered the least resistance is proved by the fact that the pus was there found, having followed its own law uninterfered with and unaided.

Now, to draw a rational conclusion, why the labia was the most available point, and offered the least resistance, involves several points upon which the diagnosis of phlegmonous cellulitis was based. Had the inflammation been general, or involved the entire adipose and cellular tissues of that side, one of the several general outlets would most probably have been sought; it would have found its exit in one of three ways—through the vaginal wall near the posterior lip of the uterus; or perforated the wall of the rectum, and passed off by that channel; or passing through the obturator foramen or sacro-ischiatic notch, pointed along the line of the psoas muscle, making a psoas abscess; or sought one of the four other less probable points of discharge, for the simple reason that either of those directions would have offered least resistance from that position than the direction of the labia. That neither of these probable outlets was sought, is due to the fact of the peculiar character and location of the tumor. It was an irregularly round phlegmon, confined to the tissues lying immediately under the roof of the pelvis adjacent to and closely connected with the neck of the bladder and os uteri, on the front and left side; from this position, the direct line of pressure and least resistance was in the line of the arch of the pubis to the left, and immediately behind the left angle of the os vaginæ. The strong tissue of the left broad ligament being healthy, resisted pressure in that direction; the hard walls of the pubis resisted pressure from that side, so that the resultant was necessarily followed, and this being between the two forces, in a direction downwards and outwards, the labia became the point of rest of the several forces. Had it been otherwise, the diffused cellulitis, forming several small nuclei of abscesses, each having its own centre of pressure, would have gradually broken down and coalesced into one. The line of resistance would not have been as above described, and it would ultimately have discharged itself at one of the points most commonly sought.

For the reasons herein set forth, the opinion is held that the foregoing was a case of phlegmonous inflammation of the cellular tissue of the left anterior segment of the pelvis, and not one of "peri-uterine cellulitis," or "pelvic cellulitis," as defined by the authors.

PRELIMINARY REPORTS OF THE COMMITTEE ON DISINFECTANTS OF THE AMERICAN PUBLIC HEALTH ASSOCIATION.

III.

MERCURIC CHLORIDE.

BY GEORGE M. STERNBERG, M.D.,
SURGEON U. S. ARMY.

THE use of corrosive sublimate as a parasiticide and as an antiseptic agent for the preservation of animal tissues, etc., has long been known; but the researches which have established its value as a disinfectant are of comparatively recent date. These researches, made during the past four or five years, have demonstrated that the bichloride of mercury occupies a leading place among known germicide agents. Miquel places mercuric iodide above the chloride as an antiseptic, and it may be that it has a correspondingly greater germicide value. But from a practical point of view the chloride must still be accorded the first place on account of its cheapness and solubility.

My own observations are in accord with those of Koch, of Jalan de la Croix, and others, as to the power of this agent in dilute solutions (1 : 1000 to 1 : 10,000) to destroy the spores of bacilli—*B. Anthracis* and *B. subtilis*—and this constitutes the most difficult biological test known. Micrococci and bacilli in active growth, without spores, are killed by much weaker solutions (1 : 20,000 to 1 : 40,000).

Klein, of London, is, so far as I know, the only author who has reported results in conflict with these. In his recent work on *Microörganisms and Disease*,[1] he says:

"By sowing any microörganism in a nourishing medium, to which has been added a certain substance (*e. g.*, carbolic acid to the amount of 1 per cent.), and exposing this medium to the conditions of temperature, moisture, etc., otherwise favorable to the growth of the organism, if we find after the lapse of a due period the growth is retarded or altogether inhibited, the conclusion is drawn that this substance (viz., the carbolic acid of 1 per cent.) is an antiseptic. There is nothing more fallacious than this mode of reasoning; a great many microorganisms can be exposed to a 1 per cent. solution of carbolic acid for hours without in the least being affected, for on being transferred to a suitable nourishing medium they grow and thrive well. Similarly, by placing the spores of Bacillus anthracis in a proteid medium containing perchloride of mercury of the strength of 1 in 300,000, it is found (as Koch has shown) that the spores are absolutely incapable of germinating. But if from this the conclusion is drawn that perchloride of mercury of the strength of 1 in 300,000 is a germicide, I should most strongly dissent, for perchloride of mercury even of the strength of 1 per cent. is not a germicide any more than vinegar; for on placing the spores of Bacillus anthracis in a proteid medium, to which so much vinegar or any other acid has been added as makes it decidedly acid, it will be found that the spores do not germinate."

I have recently had occasion to object to the use of the terms antiseptic and germicide as synonymous, and the confusion resulting from such a misuse of the term *antiseptic* is exemplified in the above quotation. No one familiar with the present state of knowledge upon the subject would think of inferring that mercuric chloride is a germicide in the proportion of 1 : 300,000, because anthrax spores do not germinate in culture-fluids containing this amount. But an agent which prevents the development of putrefactive bacilli is an antiseptic, for putrefactive decomposition is prevented by such an agent as well as by one which kills germs. A germicide is necessarily an antiseptic, but an antiseptic is not necessarily a germicide. Thus alcohol, chloride of sodium, borax, sulphate of iron, and many other agents constantly used as antiseptics, do not in the most concentrated solutions destroy the vitality of the spores of bacilli, and consequently are not germicides.

The statement made by Klein that "perchloride

[1] The Practitioner, Lond., Oct. 1884, p. 251.

of mercury even of the strength of 1 per cent. is not a germicide any more than vinegar" is opposed by the experimental evidence reported *in detail* by Koch, and by my own extended experiments with this agent. I am convinced that there must have been some defect in Klein's method of working, and that the spores which killed his guinea-pigs had not been fairly exposed to the action of the disinfecting agent. He says:

"I have tried the action of a number of substances in common use as antiseptics (*e. g.*, Calvert's fluid, pure terebene, phenol 10 per cent., perchloride of mercury 1 per cent.), on the spores of Bacillus anthracis, exposing these in comparatively large quantities to the above fluids (the two being well mixed) for twenty-four hours, and then inoculating guinea-pigs with them (spores and antiseptic). The animals died with symptoms of typical anthrax, the blood teeming with the Bacillus anthracis."[1]

The very definite evidence from various sources, a portion of which will be given below, as to the power of mercuric chloride to destroy the spores of anthrax in much weaker solutions than that used by Klein, and in a much shorter time, justifies the suspicion that these guinea-pigs died from accidental inoculation with spores not subjected to the action of the disinfectant. This suspicion is further justified by Klein's account of the frequent accidents of this kind which have occurred in his laboratory. Among other examples of this given in the work already referred to is the following:

"Another gentleman working in the laboratory of the Brown Institution intended to inoculate several guinea-pigs with human tubercles. For this end he mashed up in a saline solution, in a clean mortar, a bit of human lung studded with tubercles. He did this in my room on the same table on which I was working with anthrax. One of these guinea-pigs, inoculated with human tubercle, died before the second day was over of typical anthrax. Its blood was teeming with the Bacillus anthracis. Such an accidental anthrax in guinea-pigs inoculated with tubercle occurred several times. . . I myself had the following accidental contaminations." . . .[2]

We are not here directly concerned with the restraining influence of mercuric chloride upon the development of anthrax spores, but having made some recent experiments in this direction which fully confirm the results previously reported by Koch, I may be excused for referring to the matter, especially in view of the therapeutic and sanitary possibilities which suggest themselves in connection with this inhibiting action of corrosive sublimate in very dilute solutions. From a sanitary point of view, it is evident that an agent which is capable of preventing the development of disease germs in cesspools and privy-vaults in the proportion of 1 : 300,000 [*i. e.*, one pound costing 50 cents would inhibit the development of anthrax spores in 300,000 pounds of a suitable culture-fluid] has an interest for health officers quite independent of the interest which attaches to it as a potent germicide in stronger solutions.

[1] Op. cit., p. 253.

[2] Microörganisms and Disease. The Practitioner, Lond., Aug. 1884, p. 110.

Experiment, Dec. 22, 1884.—Mercuric chloride was added to a sterilized culture-fluid in the proportion of 1 : 100,000, 1 : 200,000, and 1 : 400,000, and two culture-flasks were filled from each solution. These flasks were then inoculated with anthrax spores from a pure culture, and another flask not containing the mercuric chloride was inoculated to test the stock. At the end of 24 hours the last-mentioned flask contained an abundance of anthrax filaments, the others remained clear. At the end of 48 hours the two flasks containing the bichloride in the proportion of 1 : 400,000 contained flocculi of anthrax filaments, and the others remained clear.

Davaine found that the virulence of serum containing anthrax bacilli, obtained from the subcutaneous cellular tissue of an animal recently dead, is destroyed by adding to it corrosive sublimate in the proportion of 1 : 150,000.[1] In this case no spores are present in the material.

The restraining power of this agent is not so great for the spores of *B. subtilis* as for those of anthrax. This was shown by an experiment made upon the same date as that above reported. At the end of 24 hours after inoculation with spores a mycoderma of *B. subtilis* had formed in solutions containing 1 : 100,000, and in 48 hours the same result had occurred in two flasks containing 1 : 50,000.

The inhibiting power of this agent is still less for microörganisms in active multiplication. Thus in my experiments reported in the *Am. Journal of the Med. Sciences*, April, 1883, the development of micrococci was prevented by 1 : 30,000 to 1 : 40,000. I have recently repeated these experiments with a similar result. To destroy the vitality of the same micrococci, as proved by their failure to grow in culture-fluids required 1 : 20,000, while the bacteria in broken-down beef-tea, containing spores, were destroyed by 1 : 10,000. According to Koch, mercuric chloride in the proportion of 1 : 1000 destroys all spores in a few minutes, and in weaker solutions—up to 1 : 10,000—he has shown by culture and inoculation experiments that this agent destroys the vitality of anthrax spores.

The results of his culture and inoculation experiments are not, however, entirely in accord, and it seems probable that failure to develop upon the surface of a solid culture-medium after ten minutes' exposure to 1 : 20,000 may have been due to the restraining influence of a small amount of bichloride not removed by the washing in alcohol which was resorted to for the purpose of getting rid of this complication. Fluid cultures possess an evident superiority for such experiments as this, for when a very small quantity of spore-containing material is introduced into flasks containing a large quantity of culture-fluid the disinfecting agent is diluted beyond any possibility of interfering with the success of the experiment. Moreover when spores fail to develop in such fluid-cultures it is easy to prove that the failure relates to loss of vitality on the part of the spores, and not to the presence of an inhibiting agent. This

[1] Recherches sur le traitement des maladies charbonneuses chez l'homme. Bulletin de l'Acad. de Méd., 17 Juillet, 1880, p. 557.

I am in the habit of doing by inoculating the same culture-fluid with other spores not disinfected, and the rapid development of these is satisfactory evidence that in the first experiment failure to develop was not due to the small amount of mercuric chloride introduced in the inoculation with disinfected spores.

The view that in Koch's surface-cultures the inhibiting influence of the bichloride came into play, is sustained by his own inoculation experiments and by my culture experiments reported below. Thus we are informed[1] that three mice were inoculated with anthrax spores, attached to strands of silk thread, which had been exposed for ten minutes to solutions of the strength of 1 : 10,000, 1 : 20,000, and 1 : 50,000. All of the mice died of anthrax, but while the one inoculated with the strand exposed to 1 : 50,000 died in the usual time—on the second day—the one inoculated with 1 : 20,000 did not die until the fourth day and the one with 1 : 10,000 not until the fifth day.

That anthrax spores may survive exposure to a solution of 1 : 10,000 for a longer period than ten minutes is also shown by the following experiments.

Dec. 18, 1884.—A *small quantity* of a culture-fluid containing anthrax spores was exposed for *one hour* to mercuric chloride in the proportion of 1 : 10,000. No development of anthrax bacilli occurred in a culture-flask inoculated with these spores, but in another experiment, made at the same time, in which the proportion of the disinfectant and the time of exposure remained the same, and in which a *much larger quantity* of the spore-containing culture-fluid was used, there was an abundant development of anthrax bacilli in the inoculated culture-flask.

It is evident that in this experiment a material change in the conditions was made, although the time of exposure, and the amount of the disinfecting agent present, were the same in both cases, and that in experiments of this kind the amount of material to be disinfected must also be taken into consideration. In other words, a few germs may be destroyed by a comparatively dilute solution of the disinfecting agent, while stronger solutions will be required for the destruction of a large number of germs contained in the same amount of material. Again it is true of mercuric chloride as well as of oxidizing disinfectants, such as potassium permanganate and the hypochlorites, that the quantity of non-living organic material present will also materially influence the result. This is illustrated by my experiments reported below in which semi-solid feces was the material subjected to the action of the disinfectant.

The spores of *B. subtilis* are destroyed by about the same proportion of mercuric chloride as is required to kill anthrax spores.

Experiment, Dec. 22, 1884.—A small amount of a culture-fluid containing the spores of *B. subtilis* was exposed to the action of a solution of corrosive sublimate of the strength of 1 : 10,000, for 30 minutes; a like amount was exposed for 1 hour, and a third portion for 2 hours. Two culture-flasks were inoculated with spores from each. At the end of 24 hours those inoculated with the material exposed for 30 minutes showed an abundant development of *B. subtilis*, and the others remained clear.

The importance of the time of exposure to the action of the disinfecting agent, which is clearly brought out in the above experiment, is very well illustrated by the experiments on vaccine virus reported by Dr. W. J. Miller, of Dundee.

"I have made fourteen observations with this agent on vaccine. In one of these, it was tested in the following manner: I placed half the contents of a well-filled tube on a glass slide, and after it dried, covered it with some perchloride solution (1 in 1000), and after allowing it to lie for ten minutes, washed off the perchloride gently with water, so that the film of vaccine remained; this was then rubbed up with water, and put in a tube for use. The product entirely failed to take, while the other half of the same specimen of lymph produced a good result. Another specimen was mixed with an equal quantity of the same solution (1 in 1000), and was used an hour thereafter, disinfection being complete. Two trials were made with the same mixture, prepared immediately before use; two, after an interval of three minutes, and one, after fifteen minutes; and in all five, the lymph was uninjured. Five experiments were made with a solution of 1 in 500, and vaccine in equal proportions [= 1 : 1000.—G. M. S.], mixed respectively, immediately before use, a few minutes, three minutes, three minutes, and five minutes; and in all, the lymph was in no way affected. Two observations with lymph, and a still stronger solution, 1 in 250, in equal proportions, mixed immediately before use, gave the same negative result."[1]

According to Arloing, Cornevin, and Thomas, the activity of dried virus of symptomatic anthrax is destroyed by mercuric chloride in the proportion of 1 : 5000.

Jalan de la Croix found that the bacteria in beef *bouillon* were destroyed by 1 : 6500, but that the proportion required to destroy bacteria in a beef infusion made without heat was 1 : 2525.

It is evident that in the absence of precise information, as to time of exposure and other essential conditions, these results cannot be compared directly with those reported by other observers in which the material tested or the conditions of the experiment were different.

In the writer's experiments reported in the *American Journal of the Medical Sciences* for April, 1883, the bacteria in broken-down beef-tea (old stock exposed in the laboratory for a long time) were destroyed by two hours' exposure to mercuric chloride in the proportion of 1 : 10,000, the amount of material exposed to the action of the disinfecting agent being comparatively small.

Extended experiments upon the disinfection of tuberculous sputum have been made by Schill and Fischer, and are reported in their paper published in the second volume of the *Mittheilungen aus dem Kaiserlichen Gesundheitsamte*. In these experiments, the test of disinfection was failure of the material to produce tuberculosis when inoculated into susceptible animals.

In a first series of experiments with *dried* sputum,

[1] Mitth. a. d. k. Gesundheitsamte, I. p. 277.

[1] The Practitioner, Lond., Oct. 1884, p. 265.

which had been kept for several months, a negative result was obtained in every case from the following inoculations: Two guinea-pigs inoculated with material exposed for twenty-four hours to 1 : 1000; three with material exposed for twenty hours to 1 : 2500; and three with material exposed for twenty hours to 1 : 5000.

In another series of experiments with *fresh* sputum, in which the sublimate solution and the material to be disinfected were used *in equal amounts*, tuberculosis resulted in all of the test-animals. Three of these were inoculated with material exposed for twenty-four hours to 1 : 2000 (*i. e.*, equal parts of sputum and of a 1 : 1000 solution), and three to material exposed for twenty-four hours to 1 : 1000.

The failure to disinfect in these experiments was probably due to the fact that the viscid mass of sputum was not penetrated throughout by the disinfecting agent. In the successful experiment with dried sputum, the amount of material used was no doubt much smaller, and its physical condition (pulverized?) such as to insure the action of the disinfectant upon every portion of it.

In a previous paper (THE MEDICAL NEWS, Jan. 10, 1885, p. 34), the writer has recommended the use of a solution containing 1:500 of mercuric chloride and 1 : 500 of potassium permanganate as an efficient disinfectant for sputum and for the discharges of patients with typhoid fever and cholera. The experiments of Schill and Fischer, which I had not read when this recommendation was made, indicate that it will be necessary to use some other agent when the object in view is to destroy the infective virulence of tuberculous sputum. And, in general, it will no doubt be better to use an oxidizing disinfectant, such as the hypochlorite of soda, when the germs to be destroyed are embedded in masses of albuminous material. For such masses are disintegrated and destroyed by oxidizing agents, whereas corrosive sublimate has the opposite effect, in consequence of its power of combining with and coagulating albuminous material. For liquid fecal discharges, however, our recommendation is sustained by the experimental evidence.

The following experiments have been recently made: The standard solution above referred to—mercuric chloride and potassium permanganate, of each 1 : 500—was diluted one-half, and mixed with an equal quantity of broken-down beef-tea (= 1 : 2000). After exposure for two hours, the contained germs had lost their vitality, as proved by culture-experiments.

A more difficult test was the following: The standard solution was diluted one-half, and mixed with semi-solid feces in equal quantity, well-mixed by stirring. Two culture-flasks were inoculated from this at the end of 30 minutes, two more at the end of 1 hour, and two at the expiration of 2 hours. One of the flasks inoculated at the end of an hour broke down, the others remained clear. In the case of the flask which broke down, it is probable that some little mass of material was introduced which had not been thoroughly penetrated by the disinfecting agent. When the standard solution was diluted with three parts of water, and added to an equal amount of broken-down beef-stock (= 1 : 4000), two hours' exposure failed to prevent the subsequent development of the contained spores in a sterilized culture-fluid.

The experimental data herein recorded seem to justify the following conclusions:

Mercuric chloride, in aqueous solution, in the proportion of 1 : 10,000, is a reliable agent for the destruction of micrococci and bacilli in active growth not containing spores; and in the proportion of 1 : 1000 it destroys the spores of bacilli, provided that the microörganisms to be destroyed are fairly exposed to its action for a sufficient length of time.

A standard solution of 1 : 1000 may be safely recommended for the disinfection of bedding and clothing which can be washed; for washing the floors and walls of infected apartments; for disinfecting the hands and instruments of surgeons and gynecologists; and as a disinfecting wash for superficial wounds or mucous surfaces. For continuous application to wounds, etc., a solution of 1 : 10,000, or less, should be effective.

A standard solution of 1 : 500, with the same quantity of potassium permanganate, may be safely recommended for the disinfection of liquid fecal discharges, and other fluid material supposed to contain "disease germs," provided the time of exposure is not less than two hours, and the quantity of material to be disinfected is not in excess of that of the standard solution used.

SUCCESSFUL TREATMENT OF A CASE OF TRIGEMINAL NEURALGIA WITH NITROGLYCERINE.

BY S. P. DEAHOFE, M.D.,
OF POTSDAM, OHIO.

THE successful treatment of the following case renders it of sufficient interest to merit reporting.

H. J. A., aged 55, a farmer, with whom I was personally acquainted, family history good, came to my office, September 27, 1884, with the following history:

He had suffered pain, of a paroxysmal character, in the right side of the tongue for the past four years. The paroxysms of pain had increased in frequency and severity, so that when I saw him he had as many as half a dozen or more attacks in an hour, the pain "darting in the tongue like a knife," to use the patient's expression, interfering with mastication and also with his speech, so that he would be compelled to stop talking until the pain ceased, which would be in a few seconds. There was also marked spasm of the facial muscles of the same side of the face, the mouth being drawn to the right side. The teeth remaining were perfectly sound. His family physician had treated him for "paralysis of the tongue, due to his teeth," to use the doctor's own language, with various remedies. He had also been treated from time to time by a number of other physicians, both regular and irregular, all making similar diagnoses excepting one, who called it neuralgia.

I diagnosticated neuralgia of the gustatory branch of the trigeminus, and informed the patient of the

uncertainty of medicinal remedies in that affection, and the results of the operation of neurectomy. I concluded to try a few medicines first, and if they failed, then to perform neurectomy. Accordingly, I prescribed aconitia (Duquesnel's), in gradually increasing does, for two weeks, but to no purpose, the paroxysms still increased in number and severity.

The patient, becoming very much discouraged, then demanded an operation, refusing to take any more medicine. I then requested a consultation with Dr. J. C. Reeve, of Dayton, Ohio. The day for consultation was set; but being called to the country, the patient went to see Dr. Reeve in my absence. The doctor agreed with me in my diagnosis, and induced the patient to continue medicinal remedies yet awhile, giving him a one per cent. solution of nitroglycerine, concluding, as he afterward informed me, that the lesion was central.

In a few days, the patient reported to me a little better. I accordingly had the solution continued, in doses of one minim three times a day, with the following results:

After taking the solution two weeks, he was completely relieved. He then neglected taking it for a few days, when the pain returned, but not so severe as before. I then ordered him to continue its use. After taking the solution sixteen days more the patient was again free from pain and it has not returned since, and he was able to eat and talk as well as ever. He also says his mind and memory are far better; that his taste, which was much blunted before taking the remedy, is now normal; and that his eyes are so much improved that he can now read print without his glasses, which was difficult to read with them before taking the solution—in fact, he says he feels like a new man.

MEDICAL PROGRESS.

Furuncle of the Sebaceous and Sweat Follicles.—Dr. Josef Rabitsch, of Cairo, gives the following points of differential diagnosis between furuncle of the sebaceous follicles and the same disease in the sweat glands:

1. Sebaceous furuncle appears only on those parts of the body supplied with sebaceous glands.

2. The overlying skin is very red and inflamed, and the swelling is conical in shape.

3. At the end of four or eight days, there is an exudation through a crater-like opening.

4. After the discharge of the exudation, the resulting excavation is symmetrical and covered with healthy tissue, and cicatrizes very rapidly.

5. It may appear at any season.

Furuncle of the perspiratory glands:

1. Appears on all parts of the body, even upon the palm of the hand and sole of the foot.

2. The swelling is globular, and the overlying skin of a bluish-red color.

3. It opens in from eight to fourteen days, or later, at the point of its original appearance, or near by it, after necrosis of the skin and destruction of the adipose tissue.

4. The excavation, after the discharge of its contents, is unsymmetrical, and shows little inclination to heal.

5. It appears almost invariably in hot seasons of the year.—*Wien. med. Wochenschr.*, Dec. 13, 1884.

An Operation for Œsophagostomy.—At a late meeting of the Medico-Chirurgical Society of Edinburgh, Mr. Chiene showed a woman, æt. 32, on whom he had performed the operation of œsophagostomy. She suffered from a tumor situated behind the box of the larynx, which it was at first hoped was specific, but anti-specific remedies had failed to produce any effect. When she was unable to swallow, and was dying of inanition, the operation of œsophagostomy was proposed in preference to gastrostomy. Mr. Chiene thought he had made a slight improvement on the ordinary method of opening the œsophagus, by first incising the muscles—the anterior fibres of the sterno-mastoid and the posterior fibres of the sterno-hyoid and sterno-thyroid. By so doing, the access to the œsophagus was rendered much easier, as was also the stitching of the mucous membrane to the skin, the tension being reduced. The tumor had diminished since the operation was performed, and if she improved in weight, an attempt might be made to remove it. She was easily fed by the new mouth in the neck, the only disadvantage being the want of saliva.—*Edinburgh Medical Journal*, January, 1885.

A New Operation for Resection of the Stomach.—The *Wien. med. Wochenschrift* contains an account of a modified operation for resection of the stomach which Herr Billroth lately performed. After performing gastro-enterostomy according to Wölfler's method, he removed a carcinoma the size of a fist, cut through the duodenum beyond the carcinoma, and sutured the proximal end. The stomach was then opened above the cancer (about the middle), and the distal end of the duodenum sutured in the opening. The food entering the stomach accordingly passes into the far end of the duodenum.

This method of operation is applicable in such cases in which the extent of carcinomatous infiltration is so wide that union of the remaining portion of the stomach with the duodenum is not possible.

The patient endured the operation, which lasted more than an hour, well, and the day following was in good condition. At first he vomited the water which he drank, but shortly took milk and wine with relish. His appearance was better and pulse stronger and fuller than before the operation.—*Deutsche med. Wochenschrift*, Jan. 22, 1885.

The Therapeutic Effect of Caffeine.—Curschmann, in the *Deutsche med. Wochenschr.* of January 22, 1885, summarizes the therapeutic effect of caffeine as follows:

1. Caffeine and its salts are well tolerated, and even in large doses (30 grains per day) are harmless remedies.

2. Caffeine in large doses, 15 to 30 grains per day, has in many cases a pronounced diuretic effect, which is dependent upon the elevation of the arterial pressure. The movements of the heart become more regular, while a slowing of the pulse, worthy of mention, because frequently found, is absent.

3. This want of parallelism between the elevation of the aortic pressure, and a diminution of the frequency of the pulse, does not permit the action of caffeine and digitalis to be considered identical. It is, therefore, not established that caffeine is to be considered as an agent to regulate the heart, in the same sense as digitalis.

4. The diuretic operation of caffeine is no quicker, and frequently not so continuous as the corresponding dose of powdered digitalis.

Relative to a cumulative action of the drug, Curschmann, in very many cases in which large or long-continued doses were administered, has observed no such effect. Sometimes vomiting, malaise, and headache are observed, and some persons are so uniformly unfavorably affected in this manner, that the use of the drug is contraindicated.

Permanent Surgical Dressing.—At a late meeting of the Academie de Médecine de Paris, M. Marc Sée read a paper upon a method of permanent surgical dressing. When the wound is at the point which is to be sutured, M. Sée arrests the flow of blood as thoroughly as possible, at first by means of a catgut ligature and then by the aid of a light insufflation of powdered subnitrate of bismuth. When all oozing has ceased, he makes, when the wound has a certain extent, a number of catgut sutures and then introduces tubes of red caoutchouc to insure drainage, The wound is again treated with powdered bismuth, and is then covered with phenolized dressing, in which is enclosed a small quantity of corrosive sublimate. The dressing is kept in place by gauze bands, over which is applied a rubber band. The tubes are withdrawn at the end of three or four days, and the dressing is not removed for fifteen days or three weeks, or when cicatrization is complete. —*Le Progrès Médical*, Jan. 10, 1885.

The Antiseptic Use of Iodoform.—Dr. Mosetig-Moorhof, in the *Wien. med. Presse* of Jan. 4, 1885, cites the various preparations of iodoform useful in different conditions:

(*a*) The powdered iodoform.

(*b*) Iodoform stick, elastic or stiff, according to the use to which it is to be applied, prepared with gelatine, gum acacia, or cacao butter, for introduction into fistulæ, by which they are kept open, and a passage maintained for the exit of discharges.

(*c*) Iodoform gauze, obtained by the saturation of gauze by a thirty or fifty per cent. ethereal solution of iodoform without addition of adhesive material.

(*d*) Iodoform emulsion, containing ten to fifty per cent. of iodoform, ten per cent. of water, and twenty-five per cent. of gum tragacanth. This form is applicable to compound fractures, to joint cavities, and to cold abscesses.

Iodoform in the formula: iodoform, 1 part; benzol, 9 parts; ol. vaselini, 11 parts, is valuable for parenchymatous injection in struma and uncaseified lymph glands, with excellent results.

It is also valuable in burns when applied in the form of iodoform gauze moistened in a mixture of glycerine and water, 1 to 3, and covered with wadding surrounded by an impermeable gutta-percha sheath.

No evidences of poisoning have appeared with this application, even when it has been used in burns of great extent.

Use of Cocaine in Lithotrity.—Lithotrity with rapid evacuation of the fragments (Bigelow's operation) was performed recently at St. Peter's Hospital with perfect success. The bladder was injected with a half ounce of a four per cent. solution of cocaine, and the operation was begun and completed painlessly in a quarter of an hour.—*Lancet*, Jan. 17, 1885.

Treatment of Phthisis by Arsenic.—Dr. Klempner, after a lengthy discussion on the use of arsenic in phthisis, arrives at the following conclusions:

1. Arsenic seems to exert a good effect upon the general nourishment and condition of phthisical patients.

2. A trial of it appears indicated in all phthisical cases in which no special contraindication exists.

3. A contraindication may be:

(*a*) Special idiosyncrasy against the remedy which now and then exists.

(*b*) Prominent tendency to hemorrhage.

(*c*) Organic disease of the intestinal tract and tubercular disease of the colon.

(*d*) Disease of the kidneys through which the regular excretion of the poison from the body is rendered difficult.—*Med. Chirurg. Centralbl.*, Jan. 16, 1885.

Cola.—After an exhaustive therapeutic and physiological study of the properties of cola, Dr. Monnet reaches the following conclusions as to its nature and value in medicine:

1. Cola, on account of the caffeia and theobromine which it contains, is a tonic to the heart, quickening its beat, increasing its power, and steadying its contraction.

2. In the second phase of its action, like digitalis, it regulates the pulse; under its influence, the pulsations become fuller and less frequent.

3. As a corollary to its action upon the blood pressure, there is increased diuresis, whence cola is usefully employed in affections of the heart complicated with cardiac dropsy.

4. Experiment seems to show that cola, which causes energetic contraction of the heart and increases the contractility of the muscles of organic life, on the contrary, exercises a paralyzing effect upon striated muscles when employed in toxic doses.

5. It prevents tissue waste and diminishes the production of products resulting from the destruction of nitrogenous elements (urea), and probably exercises a special action upon the nervous system.

6. In virtue of the principles it contains, it is a powerful tonic, and its use is indicated in anæmia, in chronic debility, and in convalescence from serious diseases.

7. It favors digestion, either by augmenting the secretions of the stomach, or by its action upon the muscular coat of the stomach, which is rendered less atonic in certain forms of dyspepsia. Under its influence anorexia disappears, and the digestive functions are regulated.

8. Finally, it is a remedy which has given markedly beneficial results in chronic diarrhœa, and in certain cases of sporadic cholera (Huchard, Duriau), without its being possible to explain its action physiologically. —*Bulletin Général de Thérapeutique*, Jan. 15, 1885.

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LAPAROTOMY FOR GUNSHOT WOUND OF THE SMALL INTESTINE.

IN the issue of THE MEDICAL NEWS for last week may be found an important contribution to the practical surgery of gunshot wounds of the intestines, from the pen of DR. W. T. BULL, of New York. A man, 22 years of age, was shot with a pistol of thirty-two calibre, the ball entering the abdomen near the umbilicus. At the expiration of seventeen hours, when the pulse was 102, the respiration 30, and the temperature 100.2° F., and when there was severe pain, with slight tenderness, Dr. Bull, under strict antiseptic precautions, opened the belly by a median incision extending from the umbilicus to just above the pubes. About two pints of bloody serum, containing small clots, escaped, and the intestines and mesentery showed marked evidences of peritonitis. An incised wound of the serous coat alone, made by the scissors, was tied with catgut, seven perforations were closed with Lembert's suture, iodoform was rubbed over the lines of union, and the bullet, lodged in the upper surface of the sigmoid flexure close to its mesenteric border, was removed, and the perforation united with three stitches. The man was enjoying excellent health at the expiration of three months.

The case thus briefly outlined is the first successful one of its kind on record. Kinloch, of Charleston, in 1882, did a tentative laparotomy, and sutured five pistol-shot wounds of the small intestine. On death, in thirty-two hours, two additional perforations were found to have been overlooked. In a third case, Jordan Lloyd, of Birmingham, opened the belly for suppurative peritonitis on account of a similar injury. The intestine, perforated in two places, was stitched to the abdominal wound, but the patient succumbed in two hours.

In the discussion which followed the reading of Dr. Bull's paper before the New York Surgical Society, there was a disposition to question the propriety of the operation, first, because of the asserted absence of signs of perforation or of peritonitis; and, secondly, because it was assumed that the fibrinous effusion would have sufficed to close the perforations and rendered spontaneous recovery possible.

With regard to the first objection, it may be asserted that it had no foundation in fact. On the admission of the patient, half an hour after the reception of the injury, the pulse was 96, the temperature 97.8°, and the respiration 18. When laparotomy was resorted to, the pulse was 102, the temperature 100.2°, and the respiration 30; the belly, moreover, was tender, the pain was severe, and the patient had vomited. Surely these symptoms indicated commencing peritonitis, and it would have been a grave error to have waited until they became more intense. The second objection was equally groundless. Spontaneous recovery after gunshot wounds of the small intestines is exceedingly rare, if not, indeed, questionable. Otis states that there is not a single incontestable example of recovery achieved by the unaided efforts of nature on record, and the case reported by Andrews, of Chicago, in the *Weekly Medical Review*, No. 22, 1884, does not invalidate the result of his investigations. In this case, a boy sixteen years of age was shot with a twenty-two calibre pistol-ball, which entered the belly in the linea alba an inch above the umbilicus. The treatment consisted of starvation and opium, the ball passed per anum in a week, and recovery was rapid. There is no evidence, however, that the small intestine was opened in this instance, it being far more probable that the stomach or transvere colon was the seat of the injury.

Not only has ample experience in the human subject shown that these lesions are almost necessarily mortal, but experiments upon the lower animals have served to explain why spontaneous recovery is out of the question in wounds of the magnitude met with by Dr. Bull, several having been half an inch in diameter. In his monograph, entitled "An Experimental and Critical Inquiry into the Nature and Treatment of Wounds of the Intestines," published in 1842, the late Professor Gross states that when the opening is half an inch in extent, there is almost invariably an escape of fecal matter, speedily followed by peritonitis. If such an untoward result attends incised wounds six lines long, we may naturally infer that fecal extravasation must ensue from a gunshot perforation six lines in diameter, since the

contraction of the opening and the eversion of the mucous membrane, which are nature's resources in closing minute wounds, are absent in lesions produced by projectiles, even of small calibre, which, as shown by the experiments of Parkes, published in THE MEDICAL NEWS for May 17, 1884, produce extensive and severe lacerations.

In view of the grave prognosis of shot wounds of the small intestines, which are, as a rule, multiple, we are firmly convinced that the expectant treatment should henceforth be entirely abandoned. In all cases, as soon as the diagnosis of penetration of the abdominal cavity has been established, an exploratory laparotomy is demanded, whether signs of peritonitis be absent or present. If the intestine be found to have escaped, little, if any, harm will ensue, whereas if the gut be opened the wound can be closed with sutures, and hemorrhage arrested, thereby materially enhancing the chances of recovery. When the perforations are in close proximity to each other, the affected portion of the gut should be excised, the divided ends be approximated, and the coil be returned into the belly. The formation of an artificial anus, as attempted by Lloyd, is not desirable.

In THE MEDICAL NEWS for October 18, 1884, we called attention to Kocher's successful laparotomy and enterorrhaphy for a pistol-shot wound of the stomach; to an equally successful similar operation by Mikulicz for peritonitis, the effect of perforating ulcer of the ileum; and to a laparotomy by Krönlein for peritonitis, resulting from perforation of the vermiform appendix, with resection of the latter. In addition to these cases, which serve to illustrate what should long since have been an established principle of treatment, Tiling has recorded in the *St. Petersburger medicinische Wochenschrift*, No. 44, 1884, a recovery after laparotomy for a penetrating knife wound of the stomach. The peritoneal cavity was filled with blood, and a wound, two-fifths of an inch long, in the posterior wall of the viscus was closed by three sutures passed through the muscular coat, and four points of Lembert's suture carried through the serous coat. The presence of a wound in so unusual a situation, the knife having entered through the anterior wall of the belly, shows that the posterior wall of the stomach presents forward when it is distended by food. The patient, a male, 19 years of age, vomited immediately after the reception of the injury, through which the escape of the contents of the stomach into the peritoneal cavity was prevented.

From these facts we are led to the belief that not only is suturing, with or without enterectomy, indicated in gunshot wounds, but that it should also be resorted to in all perforations, be they traumatic or pathological, of any portion of the gastrointestinal tract.

CHOLERA PROSPECTS.

THE great majority of American physicians and sanitarians are of the opinion that it is rather more than an even chance that Asiatic cholera will be brought to our shores in the course of the present year, and this opinion is based on the history of previous epidemics. As the course of the disease in Europe last year was somewhat different from that which it has followed in previous epidemics, and as it has not yet appeared in those regions from which the tide of emigration sets most strongly towards the United States, the danger can hardly be said to be immediate and pressing. Still, there is no doubt that the danger is a very real one, and that those who are charged with the duty of caring for the public health are incurring grave responsibility if they hesitate or delay to take the precautions which all are agreed will be most efficacious in preventing the admission or limiting the spread of this disease.

We are sorry to be compelled to say that for the most part they are doing very little. As yet Congress has taken no action in the matter, and there is not the least probability that it will consider any of the bills which are now before it, for the establishment of a National Health Board or Bureau. What little power the present National Board possessed under the so-called Quarantine Act of 1879 has disappeared with the lapse of the four years during which alone that act was to remain in force.

It is true that if sufficient funds are granted to the Board, this want of power will not be greatly felt. The composition of the Board has changed to a considerable extent since it did its best work in 1879–80, and the action of the Conference of State Boards of Health at Washington, in recommending to Congress a Board organized on a totally different principle, shows that it has, to some extent at least, lost the confidence of the sanitary authorities of the country. As, however, the active support of these authorities did not seem to be of much assistance to the Board in securing appropriations from Congress, it is probable that the loss of this support will not do the Board much harm.

It is quite probable that Congress, before adjournment, will appropriate half a million of dollars to be used by the President as an epidemic fund, and as the members of the National Board of Health are decidedly in harmony, politically, with the incoming administration, it is quite likely that they will be able to induce the President to intrust it with the expenditure of the money, in which case the old friends of the Board will, for the most part, again take it into favor; which is probably the best solution of this part of the problem now possible.

But the action of Congress is of small importance as compared with what could be done by State and Municipal authorities, and yet many of these show

no signs of activity. Pennsylvania is still without a sanitary organization. Philadelphia still contains thousands of cesspools and privy vaults, and has the unenviable reputation of having the worst system of sewerage of any large city in the United States, with the exception of Baltimore. The soil of these two great cities, Philadelphia and Baltimore, is thoroughly saturated with organic matter by soakage from cesspools, vaults, and leaky sewers; and if it is true that cholera flourishes above such soils, their prospects are gloomy. It would be easy to specify many smaller cities and towns which are even worse prepared to meet Asiatic cholera than the two we have named, and which are doing nothing—waiting stupidly for the blow to fall. If it does come, we shall, no doubt, have a sort of sanitary revival; but what a pity it is that such a revival is not already in full blast. Asiatic cholera in this country means the loss of millions of money as well as of many lives. Five hundred deaths from the disease in Philadelphia will cause a loss to this city of more money than would give it an abundant and pure water supply and a thoroughly good system of sewerage twice over. There is little hope that our City Government will do anything; but is it not possible that there are two or three hundred intelligent citizens who have enough energy and enough at stake to induce them to take hold of the matter and compel some action?

VERSIONS AND FLEXIONS OF THE UNIMPREGNATED UTERUS.

The last and concluding lecture of Dr. Van de Warker's series upon versions and flexions of the unimpregnated uterus is given in this number of The News. These elaborate lectures require, as they certainly deserve, careful study for their proper appreciation. Probably no one else in the United States is so familiar with the literature of the subjects treated as is Dr. Van de Warker; his lectures constitute an important contribution to medical progress, and their preparation required extensive research, careful comparison, large experience, and wise judgment.

In connection with this subject, we desire to call attention to a few points in regard to which differences of opinion exist. Dr. Van de Warker adopts the view generally held, that lactation promotes uterine involution. Certainly, such opinion seems quite reasonable; nevertheless it did not receive the endorsement of Depaul, nor does it that of Charpentier, while Milsom claims to have proved that, so far from lactation promoting, it delays the involution of the uterus. Possibly there may be found a reason for this result in the fact that the woman who does not nurse is liable to a new pregnancy, and hence the necessity for the uterus being speedily restored to suitable condition, while a similar liability is much less in the nursing woman.

In the treatment of flexions of the uterus, Dr. Van de Warker rejects dilators, as well as Emmet's operation, to straighten and enlarge the cervical canal in anteflexion; he speaks of the latter as a formidable operation, and not free from danger, and that he has seen no good results from the few cases in which he has done it. He strongly advocates the stem pessary, and in this, is at one with Bantock, while many other authorities are opposed to this method—Dr. Emmet, for example, remarking in his well-known work: "As soon as the true condition comes to be appreciated, the use of the intrauterine stem will be abandoned as a most irrational instrument." Schultze, whose valuable work is almost essential for a complete study of these diseases, rejects stem pessaries in anteflexion, stating that it would be much more rational to shorten the contracted retrouterine ligaments by methodical tractions upon the neck, than to seek to restore the form of the uterus by mechanical means. Our own experience leads us to believe that the dangers of the stem pessary have been exaggerated; we doubt not that when the instrument is used with the precautions Dr. Van de Warker advises that the risk is very little. But the question as to their beneficial result is a larger one, that cannot be so readily answered. Possibly the truth lies in the mean, rather than in either extreme, and there may be an ultraism in the advocacy of the instrument, as well as too much conservatism in its rejection.

A DOCTOR'S BANK.

In a controversy which has lately appeared in one of our Southern contemporaries between a celebrated New York specialist and a visiting Georgia doctor, one of the subjects of a by-no-means amicable discussion is the propriety of displaying fees on the table of the consultant. The Georgia doctor thus narrates his grievance:

"On his left [the consultant's] is a pile of $20 bills held down by an ill-shapen stone. Just across this *exchequer for the public gaze* is the chair in which all visitors are peremptorily told to 'sit down.'"

To this impeachment, the consultant replies in the next issue of the journal as follows:

"As to my fees, I leave them on the table through the morning as they are paid by patients. I have no family practice, and most of those who consult me prefer to pay for each visit, as is a common practice in this city. I had several first patients every day, and there were, of course, several twenty dollar bills on the table every time Dr. —— came to my house."

It was, it must be confessed, a rather harrowing spectacle for a country doctor to see from his chair every time he raised his eyes a pile of $20 notes so

voluminous that a stone of any shape was required to keep them down. But he appeals, as we shall do, to the ethical side of this question. Appreciating his feelings on witnessing the spectacle of so much money, a part of the paltry gains of a single morning, we will attempt nevertheless to rise above the moral depression thereby occasioned, and ask our readers, Is it proper thus to display to the world the lucrative business of the medical practitioner? We can conceive that in the hurry of visits—indeed, we know—it is not always easy to dispose of the fast-accumulating bills in even our plethoric wallet. Yet it is quite possible to have a convenient drawer in which they can be speedily stored. In fact, one of those mysterious Jacks with a snapping mouth or protuberant belly, into whose depths good little boys are beguiled to bestow their pennies, may be utilized for the keeping of a doctor's twenty dollar fees. Very celebrated doctors have, however, hesitated to trust all contrivances of this kind, and have preferred to keep the money under their own eyes, as both safer and far more delectable. We are told that Ricord, the celebrated syphilographer, always allowed his Napoleons and sovereigns to accumulate on his table, chiefly, however, as a reminder to his patients that he expected immediate remuneration. That he, also, gratified himself with the sight of it, like the miser in "The Chimes of Normandy," is not improbable.

We can understand that displaying his fees, like the gambler's bank at Monaco, may have its uses to a canny doctor. But after all that can be said in favor of it, we must admit that it wears an air of charlatanry. It is an old trick, for we find that Hudibras's lawyer had

> ——— money placed for show,
> Like nest-eggs, to make clients lay,
> And for his false opinions pay.

THE USE AND ABUSE OF BATTEY'S AND TAIT'S OPERATIONS.

The restriction of an operation within proper limits is quite as important as its invention. He who devises a new operation is in danger of giving it undue importance, or if too modest, too wise, or too conservative in his nature to do so, he is sure to have followers who will exaggerate its value. Hardly a score of years have passed since bilateral division of the cervix uteri was done as often during a single month in Scotland, or in London, or in the United States, as it is now done in half a dozen years. Then one operator would boast of having performed it hundreds of times, now it is an almost forgotten operation, or at least rarely performed.

That which is known as Battey's operation was first done about thirteen years ago, and has been performed scores of times both at home and abroad. In some cases it has brought no good, in others death has followed, while in the majority it has resulted beneficially. But still, notwithstanding the limitations which Dr. Battey has assigned it, there is not entire agreement in the professional mind as to the cases which require it; we fail in the knowledge which can only come from large experience and continued observation, so that for a time at least, absolute rules cannot be laid down, but it is quite probable that even some of the limitations referred to are themselves but temporary and provisional, and will after a time be materially altered or entirely cast aside.

A similar remark may be made as to the operation known as Tait's, an operation which in this country is not so familiar to the profession as Battey's; the conditions which are alleged to require it are not so plain, and the diagnosis is more difficult. It is an operation, too, which finds no favor with some of the best London authorities, such as Sir Spencer Wells and Dr. J. Matthews Duncan.

Dr. W. H. Baker recently read a paper, with the title, "The Use and Abuse of Battey's and of Tait's Operations," before the Boston Society for Medical Improvement, which appears in a late number of the *Boston Medical and Surgical Journal*. He narrated four cases, in one of which he removed the ovaries for cystic disease, in another the uterine appendages for dropsy of the oviducts, while the other two, which were supposed to require Battey's operation, recovered without its being done. Of course this is too small a number to generalize from—a larger induction is needed to prove, although they may illustrate a truth.

One of Dr. Baker's conclusions is that these operations should be restricted to cases in which structural changes in the ovaries or tubes have been clearly made out, and when other suitable treatment has been unsuccessfully tried for months. He also holds that the removal of the uterine appendages may be necessary in some cases in which menstruation endangers the life or the mind of the patient, though no structural changes in these organs can be discovered. His third conclusion is that when diagnosis of cyst of the ovary is made, delay in ovariotomy increases the danger to the patient, and therefore the operation should be done at once. In regard to this point there doubtless is some difference of opinion, for it may be asked, Are we justifiable in doing an operation which may destroy a patient's life when her present health is perfect, and the cystic disease quite stationary? The final conclusion is that an exploratory incision may in some cases be warranted if it be impossible to make a diagnosis without such incision.

Dr. Baker's contribution renders some assistance towards assigning to these operations their proper

place, but a great deal more must be done before this end is accomplished.

In one of George Eliot's letters, to be found in the third volume of Mr. Cross's biography of that gifted woman, she refers to a remark which Prof. Huxley made on those good people of London, who have pursued him with false witness in their antivivisection zeal. He declares himself to be especially vexed with the "profligate lying of virtuous women."

This stinging phrase seems not inappropriate to the hermaphrodite organizations of the same kind in this part of the world.

REVIEWS.

In War Time. By S. Weir Mitchell, M.D. 12mo. pp. 423. Boston: Houghton, Mifflin & Co., 1885.

If the hard-working practitioner of medicine can ever afford to turn from the rugged and often unattractive ways of science into the pleasant paths of fiction, it is surely when the work which he selects is not only vastly entertaining in itself, but has a medical man for its hero and an eminent physician for its author. Judged from either standpoint, Dr. Mitchell's latest and most ambitious production is well adapted to excite and maintain the interest of the profession. Of the story itself, admirably conceived and well sustained throughout, we need not speak in detail, though we cannot avoid an allusion to the charming portraiture of the heroine, Mrs. Westerly, to whose graceful femininity the book owes much of its attractiveness. We know of few better pictures of the true woman—the lady—accomplished, well-bred, self-respecting, yet with a woman's follies and weaknesses delicately but clearly outlined. Meeting the attack of spiteful gossip with calm dignity or with trenchant sarcasm, but melting into warm sympathy at the woes of a friend; loving mildly and somewhat hesitatingly at first, but with increasing fervor as obstacles multiply and judgment opposes; pardoning freely a great weakness, but roused to unforgiving scorn by a lesser one which savors of dishonor, she carries with her, from first to last, a definite and charming personality, which would of itself save the book from any charge of dulness, and entitle it to a high place among those works of fiction which depend for their interest rather upon skilful delineation of character than upon plot or incident.

We have been, however, no less impressed with the portrait of the hero, and, through him, with the medical aspects of the story. Dr. Wendell, at the opening of the narrative, an assistant-surgeon in the U. S. Volunteers, is portrayed with such a vigorous, yet delicate touch, and his character, combining decided mental activity and fair literary and scientific ability with a fatal vacillation, and lack of persistent energy, is so logically and dramatically developed to its legitimate conclusions, both personal and professional, as to present a picture which, though the reverse of pleasing, is most artistic and impressive. Dr. Wendell will take his place at once, as by no means the least, among the noted medical personages of fiction, of whom there are few enough bearing any resemblance to the actual type which they are supposed to represent. Indeed, exclusive of Lydgate in "Middlemarch," and Dr. Leslie in Miss Jewett's delightful little story "A Country Doctor," they are almost invariably specimens of pseudo-scientific charlatanism, as Charles Reade's Dr. Sampson; of incredible and mysterious acumen, as Wilkie Collins' Mr. Speedwell; or of ridiculous impossibilities, as Miss Phelps' Doctor Zay. It is a great pleasure to welcome to our shelves a *real* doctor, even although he is only to serve as a warning or a rebuke.

The methods by which the gradual evolution of this character is shown, are admirable in their fidelity to truth; and the successive steps by which the almost excusable procrastination and equivocation, and the slovenly, though intelligent, professional work depicted in the first chapter, degenerate into the falsehood, the criminal carelessness, and the final dishonor of the closing scenes, constitute an inflexibly logical sequence which maintains the reader's unflagging attention. The interest, too, is sustained by the fact that, up to the point when Wendell's past cowardice when under fire is disclosed, one involuntarily hopes that the amiable and lovable side of his nature will finally triumph, and that our unavoidable sympathy will be permitted to develop into affection and respect; or that the *descensus Averni* will at least take an upward turn, and lead him to quarters more comfortable, even though undeserved, than those he seems destined for. After that disclosure, however, the correlation between his physical and moral weakness is so apparent, and the downward progress is so rapid, that we no longer hope against hope, but follow absorbedly, if not resignedly, the closing events of his career. Apart altogether from the interest of the story, however, which is greatly added to by the skilful delineation of several minor characters, notably Ann Wendell, Edward Morton, and Colonel Fox, the book is full of descriptive or reflective paragraphs, originating in the author's professional experience, and appealing strongly by their vividness and accuracy to the medical reader. Have we anywhere in so few words as graphic a picture of a death-bed as this?

"Charles Gray was lost even now to the world of loves and hates. Gaunt with past suffering, his cheeks flushed with moving spaces of intense purplish red, he lay on his back. His eyes, wide open, stared up at the ceiling between moveless lids, while the irregularly heaving chest and the dilating nostrils told of the closing struggle for the breath which is life."

Or as a corollary to that scene, and apropos of the consultation between Dr. Wendell and his superior, Dr. Lagrange, to which it gave rise, could we have a more terse and truthful explanation of what often seems to the laity medical heartlessness?

"The contrasts in a doctor's life are always striking. . . . These two men, coming from the every-day calamity of a death-bed, instantly set aside the emotions and impressions, which no repetition ever quite destroys for the most callous doctor, and began to discuss the scientific aspects of the disease with which they had been so vainly battling. They both felt, more or less, the sense of defeat which waits for the physician as he leaves the room of the dying—a keener discomfort than the unthinking public can well imagine; but both were able to lose it in their interest in that which caused it."

In an admirable description of the evolution of our medical service during the war the following paragraphs are worthy of special note:

"In all other lands medicine had places of trust, and even of power, in some way related to government; but with us, save when some unfortunate physician was abruptly called into public notice by a judicial trial, and shared for a time with ward politicians the temperate color of newspaper statements, he lived unnoted by the great public, and for all the larger uses he should have had for the Commonwealth quite unemployed. The war changed the relation of the profession to the State and to the national life, and hardly less remarkably altered its standard of what it should and must demand of itself in the future. Our great struggle found it, as a calling, with little of the national regard. It found it more or less humble, with reason enough to be so. It left it with a pride, justified by conduct, which blazoned its scutcheon with endless sacrifices and great intellectual achievements, as well as with a professional conscience, educated by the patient performance of every varied form of duty which the multiplied calls of a hard-pressed country could make upon its mental and moral life."

The temptation to quote increases as we turn over the leaves, but we must content ourselves with these extracts, which might be multiplied largely, but which will serve to demonstrate that Dr. Mitchell, in producing a work that may fairly be said to show a high order of imaginative and literary skill, has preserved his character as a thoughtful and keenly observant physician, and has thus enabled his medical readers to derive an increased pleasure from his skilful blending of fact with fancy.

SOCIETY PROCEEDINGS.

PHILADELPHIA NEUROLGICAL SOCIETY.

Stated Meeting January 26, 1885.

The President, S. Weir Mitchell, M.D., in the Chair.

Dr. H. C. Wood presented to the Society

THE FEET OF AN ATAXIC PATIENT ILLUSTRATING CHARCOT'S JOINTS.

The specimens were from the Mütter Museum of the College of Physicians, the feet of an ataxic patient that had been under his care at the University Hospital. He expressed the opinion that there was a close relation between this disease of the bones in ataxic cases and syphilis.

Dr. A. Sydney Roberts read, by request, a paper on

THE SPINAL ARTHROPATHIES.

(See The Medical News for February 14th, page 175.)

Dr. Morris J. Lewis reported

A CASE OF LOCOMOTOR ATAXIA WITH LOSS OF TEETH AND ALVEOLAR PROCESSES.

The following anomalous case of locomotor ataxia has been under my care for three months in the Episcopal Hospital. He is now under the care of Dr. Henry M. Fisher, who courteously allows me to use the notes of the case.

Mr. A., æt. 45, a well-marked ataxic for over five years, presents the following history, some points of which seem well worthy of record. Nasal catarrh exists in several members of the family, including himself. During the war he was wounded in the hip and ankle, slightly; the wounds healed kindly. He was confined for some time in Libby and Belle Isle Prisons, and since then has never felt strong. He denies having had syphilis. When 39 years of age he began to show the first symptoms of ataxia; these were diplopia, dizziness, and a staggering gait. One and a half years later he began to have lancinating pains in the extremities, and later in the bowels. Five years ago he began to have transient attacks of difficulty of hearing, and this has increased since then until about one year ago, when he became absolutely deaf.

He has always been constipated, and one year ago had slight difficulty in urination. Within the last seven months he has had severe gastric crises. Eyesight good until the last seven or eight months, except during the first year. Four years ago the symptom for which I present the case to-night, first appeared. This was a loosening and a subsequent falling out of the lower wisdom teeth. No pain nor discomfort preceded this, and the teeth were perfectly sound. In fact he had an uncommonly fine set of teeth. After this his teeth gave him no trouble until about seven months ago, when the same change began in the upper jaw, causing the loss of every tooth except the right first molar, which still remains firm.

The sequence of these events appears to be as follows: First, the teeth loosen, then the gums recede, showing in places the alveolar processes denuded, the teeth then fall or are pulled out by the fingers, and finally the alveolar processes separate in small fragments, with slight suppuration, or are detached in larger pieces. The gum then heals. The largest piece of bone thus separated shows the sockets of three incisor teeth, and a portion of a fourth. The teeth show no absorption of their fangs, and are almost without exception perfectly sound. About four months elapse between the loosening of a tooth and the final healing of the gum.

Other points of interest in this case are as follows: the patient is extremely pallid; he has the ataxic gait, although this is not very pronounced. He cannot stand with eyes closed. The knee-jerk is absent, and has been for at least four years. There is no anæsthesia of the feet or legs, and the patient localizes touch fairly; there is, however, some analgesia. There is no retardation of sensation. Examination shows external strabismus of both eyes. Pupils pin-point for near accommodation, and relax for distant vision; no reaction to light. Ophthalmoscopic examination shows left eye-ground normal, and but slight atrophy of nasal border of right disk. His sense of smell and of taste is good. There are no lesions in any of his joints to be detected.

Dr. Lambert Ott presented a case of

LOCOMOTOR ATAXIA WITH CHARCOT'S JOINTS.

S. H., aged 45 years, a travelling salesman. In 1866 he contracted chancre, no secondary symptoms following. In May, 1881, his present disease began with shooting pains in limbs and unsteadiness of gait. In November, 1883, I first saw him and diagnosticated his condition as locomotor ataxia. At the present time there is very little missing that goes to make up the

symptom-group of this disease. In December, 1883, about two and a half years after the beginning of his trouble, he noticed a swelling of his left ankle. In the morning it seemed less, and in the evening it had increased to such an extent as to cause difficulty in taking off his boot. He had no pain, no impediment in using the joint, and had it not been for the swelling he would not have taken any notice of it. He thinks the swelling reached its maximum in two weeks, and there has been no great variation since, except that in the evening it is slightly increased. At present his foot is moved normally, but when the back of the leg is grasped and extreme flexion made, crepitation is imparted to the hand; the swelling is confined to the inner and dorsal surfaces of the ankle-joint, and feels bony. The joint measures in circumference one and a half inches, the leg at midcalf one-half inch more than the opposite limb. There is no pain or tenderness on pressure or rough usage. He has been under treatment fourteen months, and has taken corrosive sublimate and chloride of gold and sodium. The electrical treatment at first was central galvanization and general faradization, and latterly the metallic brush, with the rapidly interrupted faradic current, with marked improvement.

Dr. W. W. Keen then read a note on the

COMPARATIVE EFFECTS OF ACTIVE VOLUNTARY EXERCISE AND OF PASSIVE EXERCISE BY MASSAGE, ON THE PRODUCTION OF ALBUMINURIA,

in which he called attention to one point of value in the use of massage, heretofore unrecognized.

A patient consulted him for relief from severe, constant, and long-continued pains in the calves of his legs. During the preceding year, he had walked, as a matter of exercise, nearly 2000 miles, and during the year before that had travelled around the world, making long rides and walks a marked feature of his trip. He found that he had an albuminuria, of from three to ten or fifteen per cent., which was curiously dependent upon exercise. This he tested in the following way: He put him in bed for three days, and examined specimens of urine passed at different times in the twenty-four hours. No albumen appeared. Immediately after the last examination, he dressed and walked a measured mile. Immediately on returning, he passed water which had about five per cent. of albumen. One hour later, it had still a trace; two hours after the walk, it was free. The next morning's urine was still free, but that passed after walking a mile had again about five per cent. of albumen. A few days later, massage was applied thoroughly for forty to fifty minutes by a most competent rubber. The urine immediately before and immediately after the massage was free from albumen.

This is a striking addition to Dr. Weir Mitchell's observations as to the resulting tissue-changes induced by massage, and especially shows its value as a means of passive exercise without deleterious effects through nervous exhaustion. Dr. Keen believed the value of the massage to lie in the resulting stimulation to the muscular tissue, and the promotion of its nutrition without such changes of blood pressure and vaso-motor tonus in the muscular coat of the vessels, as induced the curious albuminuria after voluntary exercise above noted. The very probable nervous origin of albuminuria, as shown by its frequency in cases of long-continued nervous strain, and by the researches of DaCosta and Longstreth, would seem, also, to have a new confirmation by this observation.

Dr. Keen's attention has been called by Dr. Mitchell to an article on "Albuminuria as a Symptom," by the late Dr. Calvin Ellis, in the *Boston Medical and Surgical Journal*, 1880, vol. xxv. p. 388. The following somewhat analogous cases are referred to by him: In one case (Dukes: "The Albuminuria of Adolescents," *British Medical Journal*, Nov. 30, 1878, p. 794), a young man's urine was normal when in bed. On rising and taking milk only, it would continue so; but after eating a piece of bread, the albumen would appear. As he improved while lying in bed, meat could be eaten without any change in the urine. While this would look to digestive changes as a cause, the so-called post-cibal albuminuria, the following cases are more positive evidences of the effects of exertion in the production of albuminuria:

Edlefsen (*Berl. klin. Wochen.*, Sept. 22, 1879) noticed in three healthy but anæmic men transient albuminuria after exertion. Leube (*Virchow's Archiv*, v. 72, p. 145) examined the urine of a large number of healthy soldiers in the morning, and found it normal, but after a five hours' march or severe exercise, in June, July, and August, with a temperature of 54° to 77° F., it contained albuminuria in sixteen per cent., though the amount was small and never exceeded one per cent., and there were neither casts nor blood corpuscles. This could not be detected at a later examination, between 4 and 6 P.M. The same was seen under similar circumstances in army officers in connection with scanty urine, and also in nervous persons. (Fürbinger, *Zeitsch. f. klin. Med.*, 1, p. 345.) "It is most natural to suppose that its presence was owing either to some variation in the blood pressure or to some change in the vessels. The rapidity of its appearance and disappearance makes it extremely improbable that there was any change in the vessels, and we are left with a variation of the blood pressure. The view that the last might be operative seems to be supported by the statement of Ranke, that the blood accumulates in the muscles of a healthy man during exertion, while it is diminished in the organs which are at rest."

Dr. Keen stated that in the case he reported, in the course of a year the albumen has become constant, though his exercise has been restricted to the last degree consistent with health; but the amount is never over a faint trace. At no time have any casts or blood been discovered. A prolonged sea voyage is now being tried as a means of cure.

NEW YORK SURGICAL SOCIETY.

Stated Meeting, January 27, 1885.

The President, R. F. Weir, M.D., in the Chair.

REMOVAL OF THE UTERUS AND ITS ANNEXA BY ABDOMINAL SECTION; DEATH ON THE SIXTH DAY FROM PERITONITIS EXCITED BY THE PRESENCE OF A SPONGE.

Dr. Briddon presented a specimen accompanied with the following history: N., aged 27, came under my observation for the first time on the first day of

November, 1884, when I was furnished with the following history: She was delivered of her first and only child three years ago. She suffered on that occasion from post-partum hemorrhage, and was informed by her physician that she had a tumor. Eighteen months subsequently she began to suffer from menorrhagia and metrorrhagia, which conditions increased so much that on several occasions there was great difficulty in controlling the flow. In July, 1884, she began to suffer from pain associated with the discharge of large clots. In October, she became so much exhausted that she had to take to her bed, where I found her. She was a tolerably well-nourished, but much exsanguinated, woman. An examination of her lungs, heart, and urine had yielded negative results. Inspection detected nothing but a very moderate prominence in the hypogastric region. Palpation discovered a tumor in the median line, which had the configuration of the uterus, and which reached to about the level of the umbilicus. Auscultation could detect no pulsation of the fœtal heart. Examination by the vagina found the os patulous, the cervix shortened, and the finger came in contact with a tumor apparently projecting into the cavity of the uterus. Bimanual examination made out that the vagina was continuous with the tumor above the pubes. The diagnosis of submucous fibroma was made. It was advised to use hypodermic injections of ergotin three times a week until the local conditions were favorable for enucleation.

Nov. 20.—She had an attack of hemorrhage of a very alarming character, which only yielded to the liberal use of ergot and the tampon. The condition of acute anæmia that followed this was of a very serious character. Intense thirst, vomiting, restlessness, sighing respiration. At one time preparations were made for the intravenous use of salines. Nothing was retained but iced champagne, which was given continuously, and it was only by the most assiduous care of her attendants that she was tided over. Then it was determined, by the liberal use of such food and wine as she could assimilate, to prepare her for such operative procedure as might be necessary to prevent another hemorrhage.

Jan. 1, 1885.—Her condition appeared to warrant a more thorough examination. A large tupelo tent was introduced into the cervix, and in twenty-four hours she was etherized. A finger introduced into the cavity of the uterus detected a pretty large tumor, which was continuous with the wall of the cavity. When the hand was introduced into the vagina, two fingers could be passed through the cervix, and directly up to the left cornua; and when these two fingers distended the cavity of the uterus, no tumor could be felt within. But bimanual examination proved that the tumor occupied the right side of the uterus and the corresponding broad ligament, and it was determined to remove the tumor by the abdominal section as soon as her condition appeared to warrant it. She was put upon a nutritious diet, and a liberal use of Burgundy.

After the end of the first week in January, the patient's condition appeared to warrant the contemplated interference. She was prepared by the usual aperient and thorough personal disinfection. The room in which it was proposed to do the operation was properly prepared, instruments, with a single exception, were boiled, brushed, and soaked in carbolic acid solution. Sponges, round and flat, were prepared a week before. Hypodermic of morphia and atropia was administered at 2.30 January 10th, and the patient was placed under the influence of ether.

An incision was made in the median line from below the umbilicus to just above the pubes. After the arrest of hemorrhage from a few bleeding points, the peritoneum was opened and the tumor exposed. It was found to involve the right side of the uterus, passing into the corresponding ligament. There was also found a small cyst in the ligament, and unconnected with the uterine tumor, and a cyst as large as a lemon in the left ovary. The tumor was held down in the pelvis so firmly that it was found impossible to lift it out until after ligation and separation of the broad ligaments. This division was made well outside the tubes and ovaries. Even after this liberation, it was found difficult to bring the supravaginal portion of the cervix into the view. A stout cod line was then passed round the tumor, and tightened by an écraseur, so as to compress the cervix temporarily, preparatory to the application of an elastic ligature, which was passed twice round and clamped. The cod line was then removed, and the section of the tumor was absolutely bloodless. It was intended to transfix the pedicle above the ligature with some gilt steel acupressure needles, but they were not deemed sufficiently strong, and a trocar was used. This was the exception referred to in the statement that all the instruments had been scrupulously cleaned. The trocar was clean, and was in the carbolic solution, but it had not been as thoroughly treated as the others. There was nothing to clean out of the peritoneum save a little blood from stitch-holes, and that was absorbed by a flat sponge. The abdominal walls were brought together by silk sutures. There was some little difficulty in placing the stump outside of the walls. It was well dusted with iodoform, and twelve layers of fifty per cent. iodoform gauze were used in the dressing, supplemented by a quilt of bichloride jute.

The tumor weighed three pounds. It was of a soft, succulent character—so soft, indeed, as to convey the impression that it was fluctuant, probably of the myxomatous variety. A subsequent examination made out that it was a soft fibroma.

On the day following the operation, the condition of the patient was satisfactory. Her pulse was frequent, and her temperature was 103°, but her general appearance was good, She complained of some pain due to the traction of the stump. She was given opium in moderate doses in the form of enemata, and a refrigerating coil was applied to the abdomen. On the second day, her temperature was 102°. The vomiting had ceased. On the third day, the temperature was down to 101°, and everything seemed hopeful. On the fourth day, there was a very unfavorable change; her temperature went up to 104°. I made a very careful examination, and could find no cause. When I was informed of the change in her condition, I took a glass drainage-tube with me, supposing that there must be something confined within the cavity of the peritoneum that required an outlet. On removal of the dressing, there was absolutely no evidence of anything that would warrant interference. There was no abdominal distention and no tenderness, and I supposed the symptoms must be due to blood poisoning. She was given stimu-

lants, hypodermics of morphia, and the refrigeration was kept up. But it was all in vain; the temperature came down a degree, but the heart failed rapidly, and she died on the morning of the sixth day.

The following is the report of Dr. William Henry Porter, who made the autopsy twelve hours after death:

"The external abdominal wound was the only surface abnormality. The abdomen was opened by straight and elliptical incisions, so that the wound and attached stump were removed entire. The incision to the right of the wound bisected a small pocket of pus, which communicated with the operation wound by one of the stitch-holes.

"Thoracic cavity: Heart and lungs normal, excepting a little fatty change in the former.

"Abdominal cavity: No distention of abdomen or undue accumulation of gas in intestines. No general peritonitis. Spleen firm and dark in color. Kidneys: both glands larger than normal. They are anæmic. Capsules normal and non-adherent. Underlying renal surface smooth. Cut surface granular. Cortex thickened. Microscopic examination: The epithelial cells, both of the straight and convoluted tubules, showed the protoplasm to be in a state of fine granular metamorphosis. This had caused the cells to become swollen, and in many places the lumen was nearly closed by them. At other points, the cells were becoming detached, the intertubular tissue was swollen and œdematous. The lesion is that of an acute parenchymatous metamorphosis of the renal cells, one which develops during the last few days or hours of life, and is often found at the necropsy.

"When the intestines were detached from the mesentery, at a point thirteen feet below the stomach, a collection of pus was found located in the substance of the mesentery, and bound to the intestinal wall by fibroplastic inflammatory exudation. From this point down to the cæcum, the small intestine and a part of the colon were in the pelvic cavity, and more or less glued together by inflammatory exudation. The recto-vaginal pouch was covered by a layer of recent deposit and a very small amount of pus. The stumps left by excision of the ovaries were not inflamed. The inside of the wound bore evidence that the healing process was progressing favorably. One end of the elastic ligature, external to the clamp, protruded into the peritoneal cavity, possibly pulled through during evisceration.

"In the iliac fossa near the cæcum, a sponge was found, seven centimetres in diameter. It was almost, if not entirely, encapsuled by inflammatory lymph.

"The wound and stump being in such good condition, and the pelvic inflammation being most advanced on the right side, point toward the foreign body as the cause of inflammation.

"Liver, weight, sixty ounces. It was slightly fatty. A few points resembling fat emboli, or commencing pyæmic foci, were found. The hepatic cells showed fatty infiltration and degeneration; also bile pigmentation.

"The cause of death in this case may be ascribed to the original operation, peritonitis, and an overworked pair of kidneys."

The fatal flaw in the technique of this operation was the omission to count the sponges before closing the wound. I cannot plead ignorance of the necessity for attention to so important a detail, for I was conversant with the accidents from such cause published in the literature of the subject. How it could have happened, surrounded by my trustworthy friends, men accustomed to deal with such cases, is more than I can tell.

Dr. Sands had recently heard of an instance in which a few months ago ovariotomy was performed, and one or two days after the operation unpleasant symptoms developed. It was then found that a sponge was missing; the surgeon opened the abdominal cavity, removed the sponge, the unpleasant symptoms disappeared, and the patient recovered.

Dr. Markoe referred to a case in which the accident of leaving a sponge in the bottom of a wound occurred in his observation. It was one of deep sinus of the popliteal space, which for many months had been treated by a medical gentleman by the use of sponge-tents. Finally Dr. Markoe was called upon to operate. In order to facilitate following the track of the sinus, he injected the cavity with black ink, for the purpose of staining every part of the tract, and at the operation he followed out every part of the sinus with the greatest care. The late Dr. Van Buren assisted him at the operation. No disease of the bone was found. Subsequently the case did very well, but the sinus remained as obstinate as ever, and after a time the gentleman went to Philadelphia, where he consulted one of the leading surgeons in that city, who recommended an operation, and performed it, and its performance disclosed the presence of a piece of sponge as large as the smallest commonly used, which was lodged in the cavity, and was surrounded by dense fibro-plastic material. The foreign body was removed and the patient recovered. He had the satisfaction of dividing the responsibility with the gentleman who had previously used sponge-tents as to who had left the sponge in the wound.

Dr. Stimson said there was a practical lesson to be learned from Dr. Briddon's case, as the accident was plainly the result of using a handful of small sponges for the purpose of holding back the intestines, instead of one large flat sponge.

Dr. Briddon remarked that his directions always were to use the small sponges only during the operation of making the incision in the abdominal wall down to the peritoneum; then they should all be removed, and afterward the large flat sponge employed.

Dr. Hall asked if we were justified in assuming that an aseptic sponge left in the peritoneal cavity would cause peritonitis.

Dr. Gerster wished to add two cases, not on account of the fact that sponges remained in the wound, but because he was able to say that the sponges were not forgotten, but remained in spite of the wound being carefully explored for them. The sponges which he used were Florida sponges prepared after the method of Keller, which leaves some of them exceedingly brittle.

After having removed the breast of one patient, it was necessary to enter deeply the axillary cavity, and sponges were packed into the deepest portion of the cavity during one part of the operation, and there one of them became so matted together and united with the wound surface, that when the sponge was seized to be extracted, a portion of it, about the size of the last joint of one's thumb, separated and remained behind.

The surface of this fragment was so smooth from the blood-clot enclosing it, that it was not recognized by subsequent exploration of the wound with the finger. The external wound healed by first intention throughout. Everything seemed to be doing well, and at the expiration of ten days he withdrew the drainage-tube which had been placed through a counter-opening made in the latissimus dorsi muscle. A day or so afterward, suddenly, high fever set in, without any apparent reason, but soon the nature of the disturbance was disclosed, for a fluctuating swelling with redness of the skin developed in the axillary region, and a large quantity of pus was evacuated, when the piece of sponge was discovered and removed.

A similar instance occurred to him in a case of extirpation of the rectum, in which a portion of a sponge remained in the deepest part of the wound beyond the pelvic fascia. It resulted in the formation of abscesses in the prevertebral connective tissue, and the case terminated fatally by septicæmia.

The President remarked, that it seemed, in Dr. Gerster's first case, the sponge did no damage until it was exposed by the removal of the antiseptic dressing.

Dr. Gerster remarked that he would be rather inclined to believe that there were septic substances in the sponge which produced the trouble, although there was no suppuration before the dressings were removed. There was a case on record which he remembered to have read some years ago, reported by Volkmann, who once performed exsection of the hip-joint and left a sponge in the acetabulum, which remained for a long time, causing no trouble whatever, but finally trouble was developed, and it was removed by operation four or six weeks after the performance of the exsection.

Dr. Briddon referred to the fact that this accident had occurred in one of Tait's own cases, and that Tait referred to ten others in which it had occurred.

The President also remarked that a paper had recently been published in which twenty cases of the occurrence of this accident had been reported.

EPITHELIOMA OF THE PENIS.

Dr. Briddon presented a patient, a man forty years of age, who submitted to amputation of the penis by one of his colleagues in the Presbyterian Hospital, in August, 1884. The operation was performed a short distance behind the glans. In October following, the patient entered Dr. Briddon's service at the hospital, and on examination it was found that there was a return of the disease in the stump, with induration of some of the inguinal glands. Dr. Briddon amputated the penis according to the plan devised by Demarquay, by making two elliptical incisions, circumscribing the penis at the root, and terminating in the perineum just in front of the penis. The perineal portion of the spongy urethra was then dissected from the corpora cavernosa, turned down, and stitched to the margin of the perineal wound about one inch in front of the anus. The penis was then drawn forward, and dissected from the pubis by hugging the front of the bone closely with the knife, cutting off the crura from the ramus on either side. Dr. Briddon suggested that this step in the operation would be improved by hugging the crura of the penis with the knife as they join to form the covering of the body, and in that way a greater length of bloodvessels would be insured outside of the triangular ligament. The indurated inguinal glands were removed at the same operation. Union was retarded by faulty drainage. There was already evidence of return of the disease in the stitch-holes in the inguinal region, and possibly just above the scrotum, but whether the induration above the scrotum depended upon a return of the disease, or whether it was due to the induration surrounding the sinus, which existed for some time, he was not prepared to say, although it was probably due to the former. The patient experienced no difficulty in passing his urine, although he was obliged to take a sitting position when he emptied his bladder.

Dr. W. T. Bull referred to a case which he reported to the Society about one year ago, in which precisely the same operation had been performed, and although the inguinal glands were enlarged upon both sides, and were indurated, they disappeared altogether very soon after the operation. Already one year and a half had elapsed since the operation, and there had been no recurrence of the disease.

MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

Stated Meeting, February 6, 1885.

Prof. Thomas G. Roddick, M.D., in the Chair.

The Chairman related the following case of

SUBPERIOSTEAL AMPUTATION AT THE HIP-JOINT,

and exhibited the specimen.

I. McL., aged 35, five years ago received a severe injury of the hip-joint by falling through a trap-door and being suspended by his right foot, which caught as he fell. The joint, after the accident, was much swollen and very painful, and patient was confined to bed for a month. He then got about with some difficulty, the joint being still swollen and painful. During the next four years, he was sometimes better and sometimes worse, but never able to use the joint perfectly, as it was always stiff and somewhat painful. A year ago he consulted Dr. Roddick, who treated him by extension and rest, under which he rapidly improved, and was soon able to go home with his hip-joint fixed in an apparatus devised by Dr. Roddick. For several months, patient progressed favorably, and was entirely free from pain. The joint, however, again became painful, inflamed, and swollen, and an abscess opened in front of thigh to the inner side of Scarpa's triangle. He again came into town and saw Dr. Roddick, who made free incisions on the outer side of the thigh, draining the abscess as thoroughly as possible. The patient did not improve, but had nightly elevation of temperature with profuse suppuration. The joint was now quite rough on manipulation, and apparently entirely disorganized. It was found impossible to drain the abscess cavity thoroughly, and the pus began to burrow deeply along the muscles. The patient's temperature kept continuously high (103–4°), and he had one severe rigor. His general condition was unfavorable. He now consented to operative procedures. Dr. Roddick decided to perform excision if possible, and if not, to proceed to amputate at the hip after the method of Furneux Jordan.

He was placed under ether on February 3, 1885, and an exploratory incision made on the outside of the thigh over the trochanter major. It was now found that not only the head of the thigh-bone and acetabulum were diseased, but the upper third of the bone was bare and necrosed, and that pus had burrowed in all directions. It was thought that excision would be of no benefit, owing to the great extent of the disease and the condition of the patient; so it was determined to amputate at the hip-joint. An Esmarch bandage having been applied high up, the thigh was amputated by the circular method at the junction of the middle with the upper third, and then, after the vessels had been secured, the upper end of the femur in the stump dissected out by an incision on the outer side, as recommended by Mr. Furneux Jordan. By this operation the vessels were divided low down and secured without difficulty and with almost no loss of blood. After resecting the femur, several large pieces of necrosed bone were removed from the acetabulum.

Notwithstanding the little loss of blood, the shock was very severe, and, although the patient rallied slightly after the operation, he sank within twenty-four hours in spite of all treatment. Dr. Roddick said that, in addition to performing Jordan's operation, he peeled off all the periosteum from the upper part of the thigh-bone before removing it. The specimen which was exhibited to the Society showed almost complete absorption of the head of the femur, with necrosis of the upper part of the bone. Several large sequestra which had been removed from the acetabulum were also shown.

TUMOR OF THE BLADDER.[1]

DR. RODDICK stated that the case of removal of a large tumor of the bladder some three months ago, and which he had reported to the Society, had lately died. The man was doing well, and the wound had almost closed, when his health began to fail, and pus appeared in large quantities in his urine. Then a large scrotal abscess formed, and weakened him a great deal, and he gradually sank and died from exhaustion. The bladder, kidneys, and ureters were shown. The point of attachment of the tumor was seen a little to the left of the neck, and at the point where the pedicle had been attached was seen a small nodule healed over. The bladder itself was hypertrophied, and exhibited all appearances of obstructive disease. The ureters were much dilated, and both the kidneys were affected with suppurative interstitial nephritis.

CANCER OF PYLORIC END OF STOMACH AND PANCREAS.

PROF. GEORGE ROSS reported a case of malignant disease of the pyloric end of the stomach with secondary disease of the pancreas, and exhibited the specimens. The history of the case was as follows:

Dr. Ross saw the patient, a man, aged 40, a year ago. At that time he complained of dyspeptic symptoms, such as acidity, flatulence, etc., and failing health. He improved under treatment; but when seen some months later, he complained of vomiting at intervals of considerable length—one, two, and three days. Vomiting was preceded by great uneasiness, and a sense of distention. The vomiting, as a rule, was a voluntary effort, and gave great relief. On examination, the patient now presented all the symptoms of a dilated stomach, and the diagnosis was disease of the pyloric end, with dilatation of the stomach. No tumor could be felt, nor was there any pain. Some time after, he entered the hospital to be treated by siphon and douche, and then no dilatation could be made out, and the vomiting had almost entirely ceased; very occasionally, however, he vomited frothy matter which contained abundance of sarcinæ ventriculi. During the summer he improved somewhat, and was able to get about. In the autumn his health began to fail rapidly, but there was no pain or vomiting. In October last, he began to exhibit a slight yellowish tinge of skin; the color deepened gradually, and emaciation steadily increased. A month later, an indistinct fulness was felt about the pylorus, but this could not be accurately defined. Diagnosis was malignant disease of the pylorus, with pressure on the bile-duct. He gradually became weaker, and died of exhaustion a month ago. Throughout the whole course of his illness, he never suffered in the slighest degree from pain. At the autopsy, the stomach was found but slightly dilated, the pylorus was found to be the subject of malignant disease, and the pyloric orifice was much contracted, and admitted with difficulty an ordinary lead-pencil. There was also secondary disease of the head of the pancreas, with almost complete obliteration of the common bile-duct.

[1] See THE MEDICAL NEWS, Jan. 3, 1885.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Stated Meeting, Thursday, February 5, 1885.

THE PRESIDENT, B. F. BAER, M.D., IN THE CHAIR.

CERVICAL PREGNANCY.

DR. E. E. MONTGOMERY read a paper in which he recounted the history of a case seen by him in consultation with Dr. Alexander. The patient had been pregnant eight times; the last labor had been terminated by forceps. The present pregnancy had lasted three months, when she was taken with severe pain and quite profuse hemorrhage. An examination under ether disclosed that the cervix was distended, forming a globular tumor. The os, turned backward, was filled up with a tense membrane; breaking through it, the cervix was found to be a large cavity, in which was the fœtus and its envelopes. The body of the uterus appeared like an excrescence upon the distended cervix; it would admit a finger, and was lined by a decidua. The membrane below was continuous with the outer mucous membrane of the cervix, so that the remains of it hung as a fringe from the os.

This case differed from the few cases of this condition described, in that there was no contraction of the os; in the majority of cases it occurs in primiparæ, and when discovered it was necessary to proceed to artificial measures to make an opening.

DR. GOODELL remarked that he had no knowledge of cervical pregnancy. One case which had been sent to him as such was epithelial cancer of the cervix. How could such a case be diagnosticated without a post-mortem examination? Dr. Montgomery's hypothesis of an arrested abortion is probably the correct solution of such a case as he has described. The fœtus might be forced out of the body of the uterus and arrested in the cervix by an unyielding os, or by cica-

tricial bands. Some years ago, a physician of this city who had a large obstetrical practice, borrowed Dr. Goodell's écraseur for the removal of a supposed uterine polypus, which proved to be a fœtus in its amniotic sac. Dr. Goodell had never been able to understand how an experienced man could make such a mistake, but the description of this case of cervical pregnancy has thrown light upon the matter. Dr. Montgomery's description of the distended cervix would apply very well to uterine polypus with a long pedicle, and a mistake in diagnosis might easily be made.

DR. MONTGOMERY questions the primary occurrence of cervical pregnancy. He believes the fœtus has originally taken its seat in the body of the uterus, and has been forced into its lower position later; but it might be primary, the internal os being patulous, the same conditions that sometimes cause placenta prævia might cause the entire fecundated ovum to be arrested in the cervix.

RUPTURED UTERUS.

D. B. F. BAER presented the specimens and related the history. Mrs. F., colored, 32 years of age, married ten years, had borne four children at term, and had one miscarriage. The first child was forceps-delivered, and was still-born. November 14, 1884, she was taken in labor. A midwife was in attendance, who pronounced everything correct. After a few hours of severe pains, the patient "felt something break in the womb," and labor ceased, but was replaced with sharp pains all over the abdomen; blood escaped in great quantity from the vagina. Collapse ensued, and she was thought to be dead; a slow reaction occurred, and her attendants waited for labor to begin again. Dr. Fisher was called to see her ten days after the accident. He found her abdomen tender and tympanitic. a mass like the head of a fœtus in the right hypochondriac region. The pelvis was empty. Temperature 103°; pulse 108, and small. Rupture of the uterus, and escape of the fœtus into the abdominal cavity was diagnosticated. Dr. Baer was called in and confirmed the diagnosis. The patient refused operative assistance, and preferred to die in peace, but five days later asked to be relieved. Preparations were made for laparotomy. An examination per vaginam revealed gangrenous pus escaping freely, and the placenta loose and hanging from the vagina. The hand passed readily through the os uteri and through a tear in the right wall of the cervix into the abdominal cavity and came upon the trunk of the child. The latter was extracted through the vagina by version by the feet; it was putrid. The parts were all irrigated with carbolized water, and the hand again introduced entered an adventitious sac and nowhere came in contact with intestines or other viscera. The uterus was well contracted and quite small. The uterus and sac were washed out with carbolized water until it returned pure. The patient died of septicæmia ten days after the removal of the fœtus. Dr. Baer is in full accord with the principles advanced by Dr. R. P. Harris in his paper entitled, "If a woman has ruptured her uterus during labor, what shall be done to save her life?" (*Amer. Journ. Obstet.*, October, 1880, p. 809), in which he advises that the abdomen should be opened and the peritoneal cavity thoroughly cleaned. In this case, however, nature had protected herself by forming an adventitious cavity, and there could be no reason to open the abdomen to clean this out, as it could be reached from below more directly and without injury to the soft parts.

DR. HENRY M. FISHER said that in Germany a distinction is made between lymphatic septicæmia and phlebitic septicæmia. In the first form the poison is absorbed by the lymphatics and inflammation of serous surfaces with exudation is the consequence. In the phlebitic form, numerous emboli are formed and hectic fever and local pus formations, the result of these emboli, are found. At the autopsy, in this case, pleural and pericardial effusion was found. It will be remembered that peritonitis occurred very soon after the rupture.

DR. GOODELL remarked that he had come intending to criticise Dr. Baer's treatment of this case for not resorting to laparotomy. But he found himself agreeing with both Dr. Harris and Dr. Baer. In recent cases laparotomy should always be performed, but in fifteen days an adventitious sac had been formed, and the dangers to the patient would have been increased by operation. He had seen two cases of rupture of the uterus, both of them occurred in the practice of a physician who never used obstetric forceps and had to send four miles for a consultant. In the first case peritonitis rapidly supervened, the abdomen became very much enlarged and the fœtus could not be located by palpation. The abdomen was not opened. After long groping the fœtus was found close under the diaphragm. He had great difficulty in extracting it, as the loops of intestines became entangled between its legs: the placenta was also found in the abdomen. In the other case, the body of the fœtus had escaped into the abdomen, but the head was still in the uterine cavity; it was delivered by forceps. Both patients died. In both cases it would have been far better to have opened the abdomen. *Amer. Journ. Obst.*, vol. x. p. 478, 1877.

DR. HARRIS was in accord with Drs. Goodell and Baer as to the proper treatment of the case reported. It was too late to do anything when the physician was called. The general opinion is coming around to coincide with his way of thinking concerning the propriety of laparotomy in all cases as soon as reaction from the shock of rupture and hemorrhage has been established. Of the cases reported, after such treatment, 50 per cent. have recovered. One woman has been reported as having ruptured her uterus in four successive labors with delivery per vaginam and without laparotomy, and she survived it all, but such a case is phenomenal. Three cases in Europe have been treated by removal of the uterus as in the Porro operation; they all died; there seemed to be no reason for such a method. In most cases the split extends through the cervix, and thus free drainage from the abdominal cavity is secured. One reason for closing the cervical rent by sutures is to avoid the danger of cancerous growths to which that lesion is supposed to give rise.

DR. LONGAKER remarked that many of these cases died from the profound shock and hemorrhage immediately following the accident. Two cases in his experience had died within two hours, one of them undelivered.

DR. BAER was glad to hear Dr. Harris make the distinction as to the propriety of laparotomy in his case,

where the patient was not seen until fifteen days after the accident, and was suffering from septicæmia. He had intended to perform laparotomy and was prepared for it, but when he found the newly developed sac he changed his plan, as he thought nothing could be gained by it.

NEWS ITEMS.

MONTREAL.

(*From our Special Correspondent.*)

Preparations Against an Invasion of Cholera.—A special meeting of the Montreal Medico-Chirurgical Society was held February 13, 1885, to discuss the means necessary to prevent the importation and spread of contagious diseases, especially cholera. There were present at the meeting representatives of the Board of Health, School Commissioners, and members of the French Medical Society. Dr. Larocque, the Health Officer, opened the discussion with a short paper.

A new health bill was advocated similar to that which at present exists in Ontario. It was also suggested that district physicians be appointed, and that all contagious diseases be reported to the Board of Health.

The abolition of yard privy vaults was recommended, as it was said there were 10,000 in the city, of which only 1500 were yearly emptied. It was also suggested that night soil should be burnt. More sanitary police were needed to carry out sytematic inspection of houses and premises in order that the city should be properly cleansed before summer in order to be prepared for cholera. The sewers were advised to be flushed at intervals; and, in conclusion, a more efficient ambulance service was demanded.

The Army Medical Library and Museum Building.—A bill appropriating $200,000 for the erection of a fire-proof building for the accommodation of the valuable collections of the Army Medical Museum and Library passed the House last Monday. This action insures the final passage of a bill at this Session which will enable the building to be completed by the time of meeting of the International Medical Congress, in 1887.

The Southern Branch of the New York State Medical Association will hold a meeting in Brooklyn on Wednesday, February 25th, at which several valuable papers are promised.

Gaillard's Medical Journal.—We are informed that this periodical will pass under the editorial management of Dr. P. Brynberg Porter, of New York.

The Cholera and the Illinois State Board of Health.—At an adjourned meeting of the Illinois State Board of Health, held February 7th, the following preamble and resolutions were adopted:

Whereas, The season is fast approaching when, it is feared, Asiatic cholera will again assume epidemic proportions in Europe and so threaten this country with a national calamity; and

Whereas, In the judgment of this Board such calamity may be averted by a system of preventive measures based upon the requirements of modern sanitary science;

Therefore be it resolved, That this Board respectfully, but urgently, requests: First, That the President of the United States convene the National Board of Health forthwith, and put at its disposal, subject to his approval, the unexpended balance of the appropriation made at the last session of Congress for a contingent epidemic fund. Second, That the Illinois Senators and Members of Congress push the prompt appropriation of the sums recommended by the House Committee on Public Health. Third, That authority be, by a joint resolution of Congress, conferred upon the President to issue a proclamation forbidding immigration from infected countries whenever, in the judgment of the National Board of Health, such immigration threatens the public health of this country.

Second Report of the Special Cholera Commission in India.—The supplement to the official *Gazette of India* contains the following memorandum from Surgeon-General J. M. Cunningham, M.D., Sanitary Commissioner with the Government of India:

In continuation of my letter of the 27th ult., I have the honor to submit, for the information of the Government, the accompanying communication from Dr. Klein, and to suggest that it also may be published in the supplement to the *Gazette of India* for general information.

The fact that comma-bacilli have been found in tanks without any case of cholera having occurred among the large number of people using them, is an observation of much interest and importance in regard to the relation of comma-bacilli to cholera. The observation has a special interest and importance, moreover, from the circumstance that one of the tanks in question is the *same tank* as that in which Dr. Koch found comma-bacilli, and so hastily concluded that the outbreak of cholera which took place about that time among persons using this tank had been caused by the comma-bacilli it contained.

Dr. E. Klein appends a report in which he refers to the situation of the bustees, and the general use made of the tanks near by for all purposes—cesspools, washing of clothes, utensils, and drinking. The fact that comma-bacilli were found in the water of a certain tank, and that only one case of cholera occurred within a month, though the water was in general use, is referred to as specially significant as relating to the question of the etiology of the disease.—*Lancet*, Jan. 31, 1885.

Sir Joseph Lister.—The Emperor of Germany has just conferred on Sir Joseph Lister the "Ordre pour le Mérite" for Science and Arts. This act of the venerable Emperor is a generous recognition of the claims of British medical science. In commenting on it, the *Lancet* says: "The discoverer of vaccination has been more honored in Germany than in his own country, in accordance with the Scripture that 'cannot be broken.' The quiet revolution in surgery, involving the practical abolition of pyæmia, hospital erysipelas, and gangrene,

and an infinite diminution in the calamities of surgery, which we owe to Sir Joseph Lister, more than to any other single man, is a service to mankind not quite on the same scale as the discovery of vaccination, but of very far-reaching consequence."

THE CHAIR OF PATHOLOGY AT LEIPSIC.—PROF. BIRCH-HIRSCHFELD, of Dresden, has been nominated to the Chair of Pathological Anatomy at Leipsic, vacant by the death of the late Prof. Cohnheim. The new professor is perhaps best known for his exhaustive text-book on Pathological Anatomy, of which the second edition is now appearing. He has done much original work in bacteriological subjects. He is not, therefore, likely to pursue the physiological line of inquiry so much advanced by the late illustrious teacher.—*Lancet*, Jan. 31, 1885.

SCIENCE AT TURIN.—It has been determined to spend the very liberal sum of £120,000 in creating new scientific buildings in connection with the University of Turin. Half that sum will be provided by the Provincial and Communal Councils of the City, and the other half by the Government, with the sanction of the Italian Parliament.—*Lancet*, Jan. 31, 1885.

NOTES AND QUERIES.

CASE OF CONGENITAL AND HEREDITARY ABSENCE OF LEFT BREAST.

To the Editor of THE MEDICAL NEWS.

SIR: On the 8th of August, 1883, I delivered Florence C. of a healthy male child. During the labor, which was complicated by convulsions, the patient happening to throw her left arm over her head, I noticed that the skin in the axilla was perfectly bare and smooth, and on looking further, was surprised to find that there was an entire absence of the left breast, there being only the rudimentary nipple, as in the adult male. The right breast was perfectly developed, and there was already some secretion of milk in it. On questioning the girl a few days afterwards, she stated that her mother, who is still living, has only one breast—the right one—and that she had given birth to eight children, and had nursed and raised all of them. The grandmother had the same peculiarity. Florence is a pronounced brunette, with long black hair on scalp, and abundance of hair in right axilla and on mons veneris. She has nursed her child uninterruptedly, and it is now healthy and well developed.

CHARLES W. BADEAU, M.D.

ALLENDALE, NEW JERSEY.

PHOSPHATE OF SODA IN HEPATIC COLIC.

To the Editor of THE MEDICAL NEWS.

SIR: Apropos to the recent discussion in the New York Surgical Society, as published in your issue of January 31st, you are at liberty to publish the following notes of a case occurring in the rural districts:

Mrs. J., aged 28, was seen on the 22d of October, 1884. Found her suffering intensely, the pain being referred to the region of the gall-bladder. The patient herself was firmly of opinion that she was suffering from gall-stone, and said her sister had suffered in the same way, discharging the stones a few days after the attack. This patient further said that she had suffered with similar attacks at intervals for ten years. On the 23d of October, having relieved the suffering of the day before by morphia hypodermically, I put her upon drachm doses of the phosphate of soda three times a day. To quote her own expression, "the region of the liver felt as if it were being ground up." On the 25th, two days after, over one hundred gall-stones, varying in size from a duckshot to a large pea, were discharged per rectum. The present health of the woman is excellent, and she has had no further trouble. The phosphate of soda was continued for several weeks, but has been dispensed with now for two months. What one of the laboratory staff of the profession will give us, the *rationale* of the action of this remedy in this class of cases, and also in catarrhal jaundice, for which it sometimes seems to act as a specific?

J. B. BRISTOW, M.D.

FARMINGTON, TEXAS, Feb. 14, 1885.

DIAGNOSTIC SIGN OF PREGNANCY IN THE FIRST MONTH.

To the Editor of THE MEDICAL NEWS.

SIR: In your issue of February 7, under the heading of "A New and Certain Diagnostic Sign of Pregnancy in the First Month," you attribute the discovery to Reinl, the date of the announcement as 1884.

The writer has frequently heard Prof. Goodell refer to it in his clinic at the University, and I would respectfully call your attention to his announcement of the fact on p. 26 in *Goodell's Lessons in Gynecology*, Philadelphia, 1880. He says: "A good off-hand rule to remember (in the introduction of the uterine sound) is this: 'When the cervix is as soft as one's lips, the woman is probably pregnant. When it is as hard as the tip of one's nose, the womb is most likely empty.'" Very respectfully yours.

W. G. HOWELL, JR.

GERMANTOWN, Feb. 16, 1885.

AGAINST A STATE BOARD OF MEDICAL EXAMINERS.

At the regular monthly meeting of the Montour County (Pa.) Medical Society, held January 22, 1885, the following resolutions were unanimously adopted:

Resolved, That we consider the proposed Legislative Enactment, establishing a State Board of Medical Examiners and Licencers, in its logic, expediency, and practicability, a crab-like effort at advancement.

Resolved, That the recognition of and coöperation with an irregular school of medicine, as provided in the measure of said Act, violate the letter and spirit of the State and National Codes of Ethics, and foster and perpetuate a delusion that is justly doomed to early extinction.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM FEBRUARY 10 TO FEBRUARY 16, 1885.

ROBINSON, S. Q., *Captain and Assistant Surgeon.*—From Portland, Oregon, to his proper station, Fort Spokane, Wyoming Territory.—*S. O. 20, Department of Colorado*, Feb. 2, 1885.

KEAN, J. R., *First Lieutenant and Assistant Surgeon* (recently appointed).—Assigned to duty at Fort Sill, Indian Territory.—*S. O. 23, Department of Missouri*, Feb. 11, 1885.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE WEEK ENDING FEBRUARY 14, 1885.

GUITÉRAS, JOHN, *Passed Assistant Surgeon.*—When relieved at Key West, Florida, to proceed to Charleston, S. C., and assume charge, Feb. 11, 1885.

KALLOCH, P. C., *Assistant Surgeon.*—To report to Passed Assistant Surgeon Peckham, at Wilmington, N. C., for examination for promotion, Feb. 10, 1885.

GLENNAN, A. H., *Assistant Surgeon.*—Relieved from duty at New Orleans, La., to proceed to Key West, Florida, and assume charge, Feb. 11, 1885.

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the NEWS *should be addressed to No. 1004 Walnut Street, Philadelphia.*

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ORIGINAL LECTURES.

THE TREATMENT OF WHOOPING-COUGH.

A Clinical Lecture delivered at the Philadelphia Hospital, December 3, 1884.

BY JOHN M. KEATING, M.D.,

VISITING OBSTETRICIAN AND LECTURER ON THE DISEASES OF WOMEN AND CHILDREN.

(Reported by William H. Morrison, M.D.)

GENTLEMEN: I shall to-day say a few words in reference to the treatment of whooping-cough. Special attention has been attracted to the therapeutics of this disease since the discovery by Burger of a peculiar granular matter in the sputum of whooping-cough, which has been termed the bacillus pertussis. This announcement has excited renewed interest in the treatment of this affection, for, if it be proven, it will alter almost completely the ordinary treatment of this disorder.

Dr. Jenkins, the resident physician, has prepared for your inspection some slides which are now under the microscope. The sputum was placed on the glass and dried over the flame of a Bunsen burner in order to coagulate the albumen. It was then stained with methyl-violet, thoroughly washed, and mounted.

You will note the irregular biscuit-shaped corpuscular bodies. These are supposed to be the cause of the disease, but as yet they have not been successfully inoculated.

It is hardly necessary to enter into a detailed account of the history of whooping-cough. Suffice it to say that it has three stages: the first being that of an ordinary catarrh. In the second stage there is abundant secretion of mucus which is freer than in any other affection. This interferes greatly with respiration, and has much to do in exciting the cough. In the third stage drying takes place, and the paroxysms diminish in number, but not in intensity. Finally the nervous element alone remains, and this gradually dies away. When not interfered with by treatment, it lasts about three months. Among the Japanese, the name applied to this affection signifies "the hundred days cough." At the present time there are methods of treatment by which its course can be materially shortened.

Whooping-cough is subject to many serious complications, especially complications resulting from the extension of the inflammation downwards into the air-passages. It is nearly always accompanied with bronchitis, which may result in pneumonia of the catarrhal variety. There is another serious complication which is due to the excessive expiratory efforts in coughing with obstruction of the larynx from mucus, and this is an emphysematous condition of the lung. If forcible expiration occurs while the larynx is occluded, dilatation of the air-cells necessarily takes place, and if this distention is repeated, rupture of the partitions of the air vesicles occurs, and emphysema results. The older the child, the less is the danger of permanent trouble. In addition to these there are certain cerebral complications which are liable to occur. There is intense venous congestion and even rupture of capillaries with effusion of blood. Clotting sometimes takes place in the cerebral sinus and jugular veins.

If whooping-cough be analyzed, it is found to present two elements: one is the catarrhal element, which, of course, affects the mucous membrane; the other is the nervous element and is very distinct, and it is this that gives rise to the paroxysms. These paroxysms, like the attacks of epilepsy, tend to their own cure. During the paroxysm the blood is almost entirely on the venous side of the circulation, and the anæsthetic effect of the carbonized blood on the cerebral centres relieves the attack.

The latest authorities believe that whooping-cough is a specific disease due to the presence of a microscopic parasite, entering by means of the mucous membrane of the air-passages. Some of the facts pointing in this direction are that it is one of the most contagious diseases of childhood; it runs a definite course, it occurs at all times of life, but one attack almost certainly protects from another. Why this is the case we are no more able to explain than we are in the case of the exanthemata, to which class it seems to belong. It is supposed by some that pertussis has a hardening effect on the mucous membrane of the larynx, which prevents the microbes of the disease from being absorbed. Whether the microscopical germs which have been described are or are not the cause of whooping-cough, is a question to be decided in the future. We know that the affection is due to something which can be carried from one to another. The question whether the symptoms of whooping-cough are due to the action of this peculiar material on the surface of the larynx, or whether it has first to be absorbed and exert its influence through the nervous centres cannot be positively answered. Personally, I am of the opinion that the poison may first get on the mucous membrane of the larynx, be taken up, and act on the cerebral centres. I believe this from several cases which have been reported, one of which was seen by myself, in which whooping-cough has been contracted *in utero*. Nevertheless, careful examinations of the blood, which have been especially conducted by Dolan, who has written an extremely interesting monograph upon this subject, have failed to reveal anything looking like the germ.

The child which I have brought before you to-day affords a marked example of this disease. Yesterday, he had twenty-four severe paroxysms. I call your attention to the condition of the eyes, which show the effect of the marked strain. The eyes are watery, the surrounding cellular tissue infiltrated, and they have a dark ring about them. This is one of the characteristics of whooping-cough. Where it is as marked as in the present instance, the diagnosis can almost be made

from it alone. There are other points in the appearance of those with whooping-cough which are often referred to. One of these is the ulcer under the tongue. The presence of this ulcer has been denied at times while at other times its presence has been acknowledged. The ulcer appears under the tongue on either side of the frænum, and is usually found at the height of the attack. It is due to the forcible expulsion of the tongue which comes in contact with the lower incisors. It is, however, said to have been found in cases in which the teeth have not protruded. The examinations made in this house show that the ulcer is sometimes present and sometimes absent. Where it is found, its presence constitutes a valuable evidence of whooping-cough, but if absent, the idea of whooping-cough is not excluded. At one time the presence of sugar in the urine was considered almost conclusive evidence of the presence of whooping-cough. It was supposed to be due to irritation of the respiratory centre, which we know will produce glycosuria. Examination of the urine of children suffering with whooping-cough reveals the presence of sugar in but few of the cases.

The only real evidences of whooping-cough are the history of exposure to contagion and the presence of the whoop, although this latter is not necessary, for whooping-cough may exist with simply a violent spasmodic cough, but present no characteristic whoop.

As regards treatment, let me say, in the first place, that if let alone, mild whooping-cough usually ends in recovery, unless one of the complications supervene. Previous to the last five or six years, the treatment has consisted almost entirely in the use of antispasmodics. It was considered that the disease chiefly affected the nervous system, and therefore such remedies as asafœtida and belladonna were employed, associated with external counter-irritation. Recent investigations have shown, as I have already stated, the presence of the supposed whooping-cough germ, and this has led to the treatment with antiseptics which has proved so efficacious that I propose to speak of it.

It has long been the custom to send children suffering with whooping-cough to the vicinity of gas-works, and this has been of service. The relief can probably be attributed to the presence of tar; the use of carbolic acid now does this.

We shall begin the study of the treatment of this affection by considering the influence of oxygen. In Germany, the inhalation of oxygen has been recommended especially by Niemeyer, and is said to be valuable. Here we use oxygen in the form of fresh air. Strange to say, that although fresh air is considered so beneficial in this disease, I find, in looking over the mortality tables, that the death-rate in the Southern States is as great, if not greater, than it is in the Northern States. This is probably due to the fact that the large mortality occurs in rickety and cachectic children, and that the children are often exposed to inclement weather, inducing complications. At the same time, the good effect of the soft balmy air of the sea, air saturated with moisture and the chlorides, is undoubted. The paroxysms are diminished in number and intensity, and the complications are warded off.

The next agent to which I shall refer is the steam spray. In some hospitals an attachment is made to the steam heaters, so that a room can be filled with steam. In private practice, steam may be obtained by slaking lime in the apartment, or, more conveniently, by the use of the steam atomizer. If the child remains in the city, he should have the range of several rooms well ventilated and kept at a uniform temperature. The air should be moistened with steam from a kettle on the stove (and each room should have this heat). The atomizer is also useful for the application of medicated solutions to the larynx. There are several of these solutions which may be employed. Carbolic acid is an extremely valuable one. The good effect of the carbolic acid is probably due to the direct action of the remedy on the mucous membrane of the larynx. It is an analgesic and is also supposed to act on the germ of the disease. The probability is that the local anæsthetic effect is the one which is obtained. Dobell's solution is perhaps the best means of applying this drug. It may be prepared according to the following formula:

℞.—Acidi carbolici (cryst.),	. . .	grs. iij.
Sodii biboratis,		
Sodii bicarb.,	. . . .	āā grs. xx.
Glycerinæ,	. . . . .	℥j.
Aquæ,	. . . . .	℥v.—Solve.

This can be used with the spray, and diminishes the tenacity of the mucus, favors its expulsion, and exerts a beneficial action on the paroxysms.

Another remedy which has been used with good effect in this way is the oil of eucalyptus, or eucalyptol. Quinine may also be used in the same way, but its bitter taste renders it objectionable for use with the spray, and it is better given in syrup or in the form of a powder. Thymol is certainly a valuable agent in this affection. It is, as is well known, a powerful antiseptic, second only to corrosive sublimate, and is supposed to act directly on the germs. The following prescription can be used with the atomizer:

℞.—Thymol,	. . . . .	grs. xv.
Alcoholis,	. . . . .	℥iij.
Glycerinæ,	. . . . .	℥ss.
Aquæ,	. . . . .	℥xxxiv.—Solve.

Corrosive sublimate, which is now used for almost everything, has also been applied here in the form of the spray. This is a dangerous drug to put into the hands of an unexperienced person, and as we have so many other useful remedies for this affection, I think it wise to avoid the use of corrosive sublimate. Listerine I have used extensively with good results in the treatment of whooping-cough. I employ it in the strength of one drachm to two ounces of water, with an ordinary hand atomizer. I direct the nurse to apply it a dozen or more times a day, and I find that little children, even babies, do not object to it. To it I add tincture of belladonna, potassium carbonate, or ammonium bromide, as the case may demand. The muriate of ammonia is also of great service in the form of the spray. Probably if it were not for the great expense of the drug, the hydrochlorate of cocaine would be valuable in these cases. I have used a spray of the fluid extract of coca with, I think, good results.

When the paroxysms of whooping-cough become very violent, the inhalation of a few drops of ether or chloroform is to be recommended. A few drops of

chloroform may be placed on the hand or on a handkerchief, and the child allowed to inhale it. It is safer to use ether, which is equally efficient. If at the same time the child is turned on its stomach, the mucus will escape by the mouth and the paroxysm will be relieved.

I shall next speak of the use of emetics. The severe paroxysms of this affection are usually brought about by the accumulation of thick, tenacious mucus in the larynx, and emetics act by bringing this away. The emetics ordinarily used in this affection are ipecac, alum, and the sulphate of copper, the latter being recommended very highly by Trousseau. Alum is probably the best. It acts in several ways. In the first place, it produces emesis with the expulsion of the mucus in the throat. It also acts directly on the mucus, coagulating it into small pieces, and facilitates its expulsion. This is considered as valuable as its emetic effect. If it is desired to produce vomiting, it should be given in doses of a fourth or half a teaspoonful, with syrup or honey, and this should be repeated until emesis is produced. The action of the emetic should be facilitated by placing the child on its stomach, with the head lowered, so as to invite the arterial flow to the head and relieve the paroxysm.

We next have to speak of the use of those sedatives which act primarily on the nervous system. It is stated by certain authorities that the disease can be cut short by such remedies as belladonna, bromide of potassium, and sulphate of quinia. I would place belladonna first of all. This has been used for a long time in the treatment of whooping-cough. It must be borne in mind while using this drug that children stand a proportionately larger dose than adults. It has usually been given in the form of the tincture of belladonna, but recently it has been recommended to use the sulphate of atropia in small doses frequently repeated. Belladonna has two effects. It relieves the spasmodic cough, and acts on the mucous membrane of the larynx, drying its surface. It has also been recommended to give atropia by hypodermic injection. The beginning dose of atropia should be the $\frac{1}{200}$th of a grain, and increased until dilatation of the pupil is produced, watching carefully the effects.

After belladonna come the bromides, which are quite useful. These also act in two ways. They exert a local effect on the mucous membrane of the larynx, and also have a sedative action on the nervous system. The bromides of ammonium, of potassium, and of sodium are those most frequently used. The bromide of ammonium acts more directly on the mucous membrane of the larynx as an analgesic, and it is said to act more efficiently when given by inhalation. The bromide of potassium has more of an antispasmodic effect. They can be used together.

Chloral is also very valuable in these cases, and it may be given at night in order to enable the child to rest, or it may be given in a smaller dose several times a day. For a child one year old, the dose would be two grains at bedtime, or one grain repeated three times a day. In my hands this has proven itself a most valuable remedy. Some are afraid to use it on account of its supposed depressing action on the heart. In children, by giving a smaller dose, a good effect can be obtained without danger. My own opinion is, that it is only in old cases, in which the heart has suffered strain, that any dangerous effects need be apprehended from this remedy.

Hydrobromic acid has also been found of service, for it acts like the bromides, and has the effect of drying up secretion. It is frequently used for this purpose in old cases of chronic bronchitis and bronchorrhœa. The dilute hydrobromic acid may be given in ten or fifteen drop doses every two or three hours. Or it may be given in one large dose at bedtime to enable the child to rest. Minute doses of morphia have also been used to relieve the paroxysms, but this I rather object to.

Some time ago, Binz, of Bonn, came out in an article, which was afterward endorsed by Dawson, of New York, recommending quinia most highly in the treatment of whooping-cough. The results of our experiments in this house have shown the efficiency of this drug in many cases. It has been found by experiment that the quinine must come directly in contact with the mucous membrane of the larynx. It has been applied by means of a powder containing the muriate or sulphate of quinia with bicarbonate of sodium and powdered acacia, which is blown into the larynx through a quill. My own plan is to give it suspended in the syrup of yerba santa, which is one of the best vehicles for disguising the taste of quinine. It is necessary to use a less soluble salt of quinine; for if the bisulphate is employed, an extremely bitter mixture will be the result.

The following formula may be used:

℞.—Quiniæ sulph., ... grs. viij.
Syr. yerbæ santæ,
Aquæ, ... āā ℥ss.
Sig.—One drachm represents one grain.

When given for this disease, the quinine must be pushed to large doses, giving it frequently during the day.

In addition to administering drugs to act directly on the throat, large doses of alkali, as the carbonate of potassium, may be given, with the object of liquefying the mucus and promoting expectoration. Where the amount of mucus is excessive, the bronchial tubes choked up, and the child has great difficulty of breathing, especially if there is a little fever and auscultation reveals all sorts of râles throughout the chest, it has been recommended that small doses of tartar emetic should be given. One-fourth of a grain of tartar emetic may be dissolved in four ounces of water, and a teaspoonful given every hour until the difficulty is relieved. It is often astonishing how soon this will afford relief. A few drops of compound syrup of squills which contains tartar emetic may also be given with the same object.

Astringents have also been found to be of service in this disease. For this purpose, alum may be employed, which not only has the effect already mentioned, but also acts as an astringent. Watson, many years ago, recommended that the throat should be painted with a solution of nitrate of silver, but the application is difficult.

Murrel, of London, has used drosera rotundifolia. A few drops of the tincture are put in a glass of water, and used during the day.

Albrecht has used muriate of pilocarpine, which promotes free expectoration and diminishes the tenacity of the mucus.

Benzoate of sodium has also been employed in doses of two or three grains three or four times a day.

Salicylic acid has been found of service by some. Its beneficial effect is attributed to its action on the mucous membrane.

In Germany, sulphur, rubbed up with a little syrup, is used extensively, and, in fact, in some parts of Germany this is the only treatment employed.

Among other things which have been used, may be mentioned tincture of cantharides, in very small and frequently repeated doses well diluted; infusion of chestnut leaves, in the proportion of one ounce of the fresh leaves to a pint of water, and the patient allowed to drink freely of it; also ergot.

The picrate of ammonium is another substance which is supposed to act on the germs. It has been given in the dose of one-twentieth of a grain four or five times a day.

In Europe, the use of calomel has been revived. Small doses of calomel with bicarbonate of sodium and sugar of milk are placed on the tongue. It is supposed to act directly on the mucous membrane while being swallowed.

Lastly, I speak of counter-irritation. This is an important measure. A well-known application consists of croton oil, oil of amber, and oil of cloves. These oils may be mixed with soap liniment or sweet oil and rubbed on the neck or chest three times a day, afterwards covering the surface with oiled silk.

There are so many remedies recommended in the treatment of this disease that we are sometimes at a loss to know how to begin the treatment. In an ordinary case, the use of the spray is of great importance, and no case should be treated without it. With the spray may be applied some of the remedies already referred to, using them in succession until one is found which has a good effect. Small doses of belladonna with alum and bicarbonate of potash may be given during the day to act on the mucus and relieve the paroxysms, and at night a dose of some sedative should be administered to promote sleep. Frequently an enema of ℥j of lac asafœtida will be sufficient. To this should be added the use of a counter-irritant as already recommended.

You should see that the child's bowels are regularly open, either by incorporating fruit with the diet, such as stewed apples or pears or prunes, or an orange before breakfast. Possibly it may be necessary occasionally to give some laxative, such as Philip's milk of magnesia, the syrup of Rhamus purshiana, or once in a while a dose of castor oil.

If the bronchitis be at all severe, the lungs should be carefully watched, and flaxseed meal poultices or flannels wrung out of hot water and covered with oiled silk be applied. In milder cases, a cotton or woollen jacket (carded wool) is to be preferred. When possible, cod-liver oil should be administered, or it may be used in liniment.

As to diet, the most nourishing and easily digested food taken is of course the best. The vomiting may be severe, owing to the constant gagging from the cough. Peptonized milk or gruels, beef peptones, meat jellies, broths, and eggs are the most useful. Milk punch should not be omitted.

ORIGINAL ARTICLES.

REPORT OF A CASE OF SO-CALLED HAY FEVER, TREATED BY THE GALVANO-CAUTERY.[1]

BY RICHARD HENRY THOMAS, M.D.,
PROFESSOR OF DISEASES OF THE THROAT AND CHEST IN THE WOMAN'S MEDICAL COLLEGE OF BALTIMORE, ETC.

UNTIL a comparatively recent date, the treatment of hay asthma has been conducted either upon the plan of using palliative measures in the form of local applications, or of internal treatment; or upon the theory of banishing the patient to some place, such as a mountain top or barren island, where there would be freedom from the exciting cause, there to remain till the dreaded season should be over. We believe that most observers admit the exciting cause of this distressing complaint to be some external irritant, such as the pollen of grasses,[2] which, coming into contact with the sensitive and erectile tissue of the nose, sets up an amount of irritation and inflammation there sufficient for the other phenomena of the disease, which are, in fact, only reflex phenomena. That it is not purely a nervous disease, is shown by the rapid subsidence of all symptoms soon after the removal of the patient from the influence of the exciting cause, and by their return, when the patient is even unconsciously exposed to its action. As a good example of this, I remember the case of a lady, who, having gone to a seaside place specially recommended on account of its barrenness, was much surprised to find herself suffering so much from her trouble during the first night. On arising in the morning and looking out, she saw there was a garden by the house, of which, as she had arrived after dark, she had been entirely unaware.

Although removal from the cause gives positive relief, most can ill-afford such prolonged banishment from the business of life; and when, as in the case which I am about to relate, the affection lasts from the beginning of June to the end of August with great violence, the question as to what is to be done becomes very serious.

I do not consider it within the scope of this paper to speak of the various local and general remedies that have been tried and recommended. Suffice it to say, that most of them afford temporary relief to some, while to others they are without influence. A few seem to be greatly relieved by them. In general, I have noticed that chronic sufferers are slow to believe in any cure other than the relief afforded by temporary exile.

But the external excitant is, of course, only one link in the chain of causes that produce the disorder. A very important link is formed by the chronic disease in the nose which is always found in those

[1] Read before the Clinical Society of Maryland, Jan. 16, 1885.

[2] The pollen of grasses is, of course, only one of many excitants. I have now under my care a lady who is suffering from this disease, who is never so free from it as during the summer. In her case, the attacks are brought on by dust, bad odors of any kind, etc. In the case of a colored man, who lately presented himself at my clinic, attacks were brought on whenever he entered a room where oysters were being opened.

affected with hay fever. It is very possible that the patients themselves may not be aware of the existence of any trouble of the kind between the attacks. They will say: "I am quite well, except during the season." This is probably owing to the fact that, compared with their sensations during the acute affection, they feel well for the rest of the year. Nevertheless, examination by the rhinoscope reveals the presence of diseased tissue, and it has been found that when certain parts in the nose, sometimes over the turbinated bones, sometimes on the septum, are touched with a probe at any time during the year, all the symptoms of hay fever will momentarily return. The most frequent condition found is hypertrophied tissue over the turbinated bones, especially the inferior, and over the septum. This may be comparatively slight, or so great that breathing is interfered with through the nose. In addition to this, polypi and other growths are often noticed, or a projecting spicule of bone, or a deflected septum. We can see, therefore, besides the individual susceptibility of certain people to irritation of this kind, the exciting cause needs an abnormal condition of the nasal passages to enable it to produce an attack of so-called hay fever. If, then, we remove this unhealthy condition, the chain of cause and effect in the production of the disease is as surely broken by the breaking of this link as by sending the patient to some barren island.

With Dr. Roe, of Rochester, N. Y.,[1] and others, I fully believe that this method of removing the susceptibility is the most satisfactory and positive method of cure. In fact, it is the only method of cure, as all other procedures are only temporizings. It consists in local treatment, and small operative procedures. Of course, everything calculated to excite irritation must be removed. If the septum be markedly deflected, it must be straightened; a projecting spicule of bone must be removed, as well as any polypi or other morbid growths. The hypertrophy which is nearly always present, if large enough, should be removed by a Jarvis's or other snare. If the snare is not applicable, caustics should be used, of which the galvano-cautery is, in my opinion, decidedly the best. Besides this, any point of irritation, as discovered by the probe, should be touched by the galvano-cautery, using only a very small tip. In some cases, as those described by Dr. Roe, in which there seems to be no hypertrophy, and the only sign of disorder is the irritation caused by the probe, this last is all that is required.

As to the time of treatment: for the cure, the best time is between the attacks, as there is then no risk of increasing the irritation. After the main treatment is over, it is very desirable for the patient to be seen during the next hay fever season, so as to touch any small remaining areas of irritation with the galvano-cautery tip, and render the cure radical. The following case is of special interest, owing to its unusual severity, the attacks being so severe as almost to endanger life.

B., an English gentleman, aged 22, unmarried. Since early childhood he has been subject to a certain amount of nasal catarrh, and for a long time—he cannot fix the date, has been unable to breathe for more than a minute or two at a time through his nose. About six years ago, he noticed an increase in his catarrh during the summer. Every year it has grown worse, commencing about the 1st of June and continuing till the last week in August. The attacks assume the form of asthma; and when they are at their height, he is unable to sleep or to lie down. Cannot walk across the room without increasing the dyspnœa. Many remedies have been tried, with only temporary relief, and last year the attack, after lasting a long time, culminated in catarrhal pneumonia, which left him so weak and delicate that he was unable to return to his business till November.

This summer (1883) the asthma returned with increased violence, and his physicians, fearful of a repetition of the experience of the previous year, recommended a sea-voyage. He landed in New York, July 18, 1883. This was just as I was starting on my summer vacation, and so, having been informed of his coming, I met him at the wharf. After the second day of the voyage, he had been entirely relieved of his asthma; but so sensitive was he that he had not been more than three hours in the city before he began to suffer from dyspnœa, and the usual accompaniments of the disorder. That evening, I took him by boat to the Island of Nantucket, knowing that there was a special place on the island, called Wauwinet, where he would probably be free from his trouble. There was very little vegetation near the little hotel, and, as the strip of land between the harbor and the sea was only a few hundred feet across, every breeze was by necessity a sea-breeze. Here he was quite relieved, except when a bunch of flowers was brought near him, when he would at once begin to feel suffocated. The disease, however, though it gave him no trouble, was only held in abeyance, as I had opportunity to observe by the rhinoscope, the tissues of the nose being in a state of very active hyperæmia.

Early in September, he came to Baltimore for treatment, but the extreme irritation of the Schneiderian membrane rendered it inadvisable to commence active local treatment at once. I therefore ordered full doses of quinine and had him evaporate "vapo cresoline" (a preparation of coal-tar) in his room at night, at first for an hour or so before retiring, and, later, through the whole night. This proved very satisfactory in lessening the irritation. The condition of the parts at this time was as follows, viz.: Very marked hypertrophy over the middle and lower turbinated bones anteriorly and posteriorly, not, however, projecting into the naso-pharynx; adenoid growths in the vault of the pharynx; follicular pharyngitis, and also chronic laryngitis. These last were evidently secondary to the naso-pharyngeal disease. Repeated examination of the heart and lungs showed both to be healthy. On October 4th, after some local treatment, consisting of applications of dilute spts. vini rect. to the nose and iodinized glycerine or solutions of argent. nit. (gr. xl–lx ad ℥j) to the pharynx, I made the first application of the galvano-cautery to the tissues over the right inferior

[1] New York Medical Journal, May 12 and 19, 1883, and May 3 and 10, 1884.

turbinated bone anteriorly.[1] Subsequent applications of the same kind were made to the hypertrophied tissues anteriorly and posteriorly. The posterior applications were made through the mouth under the guidance of the rhinoscopic mirror. The snare was not used during the treatment. The enlarged follicles in the pharynx were touched in the same way, and the adenoid growths removed with the forceps. The following precautions were observed in making the galvano-cautery applications, viz.: For a day or so before and after, I administered full doses of tinc. ferri chlor., and never made a second application in the vicinity of the first till all the irritation caused by the first had subsided. He returned home on the 21st of November.

The following are from my notes of his condition for several weeks before he sailed: He can breathe with perfect ease with closed mouth, and is able to read aloud with a facility before unknown. He has no special susceptibility to cold, and is able to bear exposure to inclement weather and night air. Even if he catches a slight cold, he is able to throw it off with ease. He says he is better than he ever was in his life.

He passed the winter with decidedly improved health and with very much greater freedom from any bronchial trouble. In the spring he exposed himself on several occasions to special risks, and had an attack of subacute bronchitis, which, however, passed off before the time for the hay fever. About the same time, he moved to Liverpool, choosing a room with but little sunlight in it.

I heard from him repeatedly during the dreaded period, and learned that he was hardly troubled at all. On one occasion, at the end of a short visit to one of the most thickly wooded districts in England, he felt a tingling in his eyes and for three days had a slight cold in his head. In August, for a few days he feared he would have a return, but it also passed off. His usual three months of suffering, therefore, were shortened to a few days' comparative discomfort. His was the worst case of this disease which I have seen, as the sequelæ of the last attack absolutely threatened his life, and thus I think it amounted to a test case.

ON THE SURGICAL DISSEMINATION OF CANCER.[2]

By A. G. GERSTER, M.D.,
of New York.

The subject in question not being mentioned by the authors of text-books on general and special surgery, and unknown in periodical literature, seems of sufficient importance to deserve consideration. The present essay is an *a priori* consideration of the possibility or probability occurring in the course of the development and treatment of cancer; an outline of a train of thought based on clinical observation that may deserve more extensive study in the future.

The subject-matter itself is not strictly new, observations bearing upon it having been made and published from time to time in an unconnected manner. The leading idea of this essay was originated in the year 1877, by observing the course of a striking case of rapid dissemination of cancer. Since then a number of other cases have accumulated, tending to confirm those first impressions, when, finally, Czerny's observation (published in 1883), and König's remarks on operative dissemination of tuberculosis (published in the *Centralblatt für Chirurgie*, 1884), appeared, the interest of the author was quickened by their strong confirmatory, though indirect, evidence.

They both, like the author, did not advance anything absolutely new, as everybody knows that many patients operated on for joint-tuberculosis die subsequently, and soon after the operation, of meningeal, or other forms of disease. But they drew attention to the fact that the *post hoc* may be in many cases also a *propter hoc*.

The author's case in question was as follows: An aged lady, of robust health, and cheerful, intelligent disposition, presented herself for treatment on account of an elevated ulcer of the outer margin of the sole of her right foot. It had existed for over thirteen years, growing very slowly, until it had attained the size of three inches by two inches and a half in diameter. It was segmented, each segment showing a distinct epidermal margin, the edges of the ulcer overlapping somewhat the normal skin. While open, the purplish-red ulcer discharged large quantities of a clear serum, but if the patient refrained from walking it readily cicatrized over, to become sore again on her using the foot. Previously the pain or inconvenience was very slight, and no glands were infiltrated. Lately, however, the sore had become very painful.

Excision was proposed, and carried out in the fall of 1877, when the base of the new growth was found to be attached to the plantar aponeurosis, which accordingly had to be removed too. The wound healed rapidly by granulation, the diagnosis of granuloma made previous to the operation, and based upon the benign development of the disease, was confirmed on microscopical examination made by Dr. I. Adler, of this city. A favorable prognosis was expressed, and the patient was encouraged to use her foot. Immediately upon cicatrization being completed, a number of small, purplish, pigmented nodules made their appearance in and about the scar, and well up the leg, increasing daily in number and size. Any doubts about the formidable character of the new growth were dispelled then, and a high amputation of the thigh was at once proposed, but declined by the patient, who, however, finally submitted to the operation in May, 1878. A mass of enlarged glands was also removed from below Poupart's ligament. Both wounds healed by the first intention, but the operation did not delay the patient's impending fate. A few days after the removal of the limb the patient inquired about the significance of a disturbance of vision, which she had noticed for four weeks, but in her excitement preceding the amputation omitted to mention it to the author. It will suffice to say that a retrobulbar node, causing first diplopia, finally pro-

[1] The instrument used was the improved Seiler cautery instrument.

[2] A paper read before the New York Surgical Society, February 10, 1885.

truded the eyeball from its socket in a frightful manner, and that the entire body of the patient became covered with innumerable nodes and nodules in an astonishingly short time. The patient's death by suicide fitly closed the tragedy, which did not fail to make upon the author a deep and lasting impression. Post-mortem examination revealed that all the organs, especially the viscera, were permeated with thousands of nodules of pigmented cancer.

Undoubtedly, then, we must have had originally a true granuloma, which at the time of the first operation was undergoing the not unusual change into cancer; some portions of the tumor then removed still presenting the character of a connective-tissue growth, as Dr. Adler's examination had proved. But is the fact of this change of a benign into a malignant neoplasm alone sufficient to explain its astonishingly swift dissemination? Certainly not, as all processes of dissemination observed in malignant new growths, local and systemic, are notoriously slow, and not to be compared with that in the foregoing case. By "slow" is understood a spread in *étapes*, as the French say, on marches, to use a strategetical term. That is, a nidus which is not continuous, but interrupted, is characterized by well-defined phases of activity and seeming rest.

First comes the simplest and most immediate spread by contact with neighboring tissues, which generally lasts for a considerable time, but soon is followed by the second phase; that is, that of the infection of the adjacent lymphatic vessels and glands. These serve as a barrier for a certain period of time, till a large vein becoming involved, transplantation by embolism extends the disease to one or more rather distant organs. This last one would form the *third* or *generalizing* phase of infection.

In the case related, local and general dissemination seems to have taken place simultaneously, and in a manner closely resembling certain physiological and pathological experiments performed on animals, where substances capable of multiplication are injected into the parenchyma, or directly into the circulation. The assumption of a mechanical, rapid distribution of the infective bodies is almost imperative, and this rapid mechanical distribution of the infective elements may have been accomplished by the manipulations incumbent upon the performance of the operation.

Observations similar to, if not as poignant as the one related, have multiplied in the experience of the author, extending over forty cases of amputation of the breast made since the year 1878, and the practice of every busy surgeon must yield a not inconsiderable number of instances of the same character. As none of the cases of this character possesses the elements of proof positive, it would be unnecessary to weary your patience by records of similar cases, but it is important to tell you that the practical wisdom of an older generation of surgeons has impliedly admitted the truth of our assumption by advising amputation of an extremity afflicted by what was then termed "cancer," in preference to a mere extirpation of notoriously malignant growths. And the value of this advice is twofold: First, it more surely eliminates all foci of disease than a however comprehensive excision; and last, but not least, the field of operation being more or less distant from the seat of the disease, handling of the tumor and manipulative dissemination of its elements are less likely to occur than otherwise.

Now let us consider what amount of force and energy is employed in the handling of tumors by physicians, and whether this handling does not possess some or all the characters of that form of manipulation which the French denote as "massage."

A careful physical examination of a tumor, especially if made by the aid of anæsthesia, will be, and notoriously is, frequently accompanied by the use of a good deal of necessary or unnecessary force. The handlings or manipulations ordinarily in use during the performance of bloody operations on tumors, to be dissected out of surrounding tissues, have positively the character of massage, and occasionally a very rough form of massage, too. And the employment of anæsthetics has certainly not had the effect of increasing the gentleness of operative interference. Suffice it to say that the manipulation employed on a tumor of the breast and the lymphatic glands occupying the adjacent axillary cavity during an operation lasting one or two hours, certainly may have the dignity of a manipulative séance. And all of you know that a skilful massage of thirty minutes will often cause to disappear a massive extravasation of blood from the vicinity of a sprained joint, and that three or four sittings may dispel the largest part of a solid infiltration of an inflammatory character from this or that part of the body. Now just bear in mind how many formed corpuscular elements, be they cells or broken-up portions of a firm clot, must be propelled through the lymphatics and veins into the general circulation at each massage, and the idea of the probability of the propulsion of cancerous elements of an unfixed, minute, that is, embryonic character, and situated especially in recently involved places about the margins of a tumor, is very plausible indeed. The analogy of these artificial processes is *a priori* evident, and the fact that mechanical irritation, that is, another form of massage, favors the spread of malignant disease, stands fully in accord with this assumption. Finally, it seems appropriate to adduce here Billroth's authority as a pathologist in these, his words: "I consider it most highly probable that both the continuous and the discontinuous spread of carcinomata is effected (*vermittelt*) by the dissemination of corpuscular elements, but admit that so far we are unable to prove this in all cases.[1]

The author does not wish to have it understood as if he considered this mode of dissemination the rule, but he believes that in a number of cases of malignant disease operative treatment may hasten, rather than retard, death. This statement seems to contradict the results of statistical investigation as laid down by such authorities as Von Winiwarter and Gross, whose meritorious works are well known to all surgeons. But this contradiction is partial only, and is justified by the nature of statistical results in general, which we know are arrived at by summing together

[1] Deutsche Chirurgie; Krankheiten den Brustdrüsen, S. 112.

cases widely different in character, though all representing the same disease.

Our critical attention will necessarily be first directed to the comparative estimates by averages of the duration of life of patients operated on for cancer of the breast, and patients not subjected to operative treatment.

Here we see that Winiwarter finds the average duration of life from the beginning of the disease of the operated cases to be about 39.5 months, whereas that of patients left to their fate is almost 33 months. The operated cases, accordingly, live on an average about six and a half months longer than those not coming under the surgeon's knife.

On further examining the figures it will be remarked at once that the number of observations of non-operated cases is very small as justly compared with those operated on, one being 97, the other 519. Take into consideration, furthermore, that many, if not all, of the non-operated cases were subjected to all manner of irritative treatment, greatly influencing their rapid development and dissemination. Finally, that many of them may and have been such as show a formidably malignant character, deterring even the boldest operator, so that it will be easy to comprehend that the rate of mortality as calculated for these 97 cases is unreliable and too high if applied to all cases of unfavorable cancer, many of which not being malignant did not come under observation at all. But, let us analyze the cases subjected to operation. Here we find that somewhat over *nine per cent.* were permanently cured by the operation, They necessarily must have been such in which a complete removal of all diseased tissues was successfully accomplished. It is of the utmost importance to note that such a thing is possible under certain favorable conditions, offered by an early and very thorough operation of a not extensive tumor of comparatively slow growth. Clinicians know and admit differences of infection in cancers which depend upon a more or less rapid growth, and accordingly upon a greater or less proportion of succulency attributable to more or less embryonic, non-fixed or movable tissue components or corpuscular elements. Their anatomical expression is a greater or less proportion of *cancer juice*, as produced by scraping of their cut surfaces with a scalpel.

To go back to a former comparison, we may say that as the corpuscular or liquid elements of a recent succulent inflammatory infiltration are more easily dispersed by massage, so will the elements of a succulent cancer be more prone to be dispersed by mechanical factors, and we may add that their rapidity of reproduction also stands in direct proportion to the ease with which they are dispersed. This relationship suggests resemblance to a geometrical progression, and may serve to explain the enormous differences of malignity observed in cases standing at the foot and at the head of the statistical scale respectively. Gross mentions an unoperated case that terminated fatally at the expiration of five months. Billroth gives the history of one that lived for twenty years.

To return to the cases cured permanently, we may say that a few of them may have been very malignant, but that most of them were not very malignant and were subjected to a very radical operation: finally, that in all of them up to the patient's death from other diseases, no formation of cancer *de novo* had taken place. (It is still a mooted question whether even a regional recurrence of cancer three or more years after operation is a continuation of the old process, or a new disease *per se.*)

The large majority of the 368 operated cases, that is, nearly 81 per cent., showed recurrence. In eleven and a half per cent. of the 368 cases, recurrence took place after twelve months; but it does not appear in what manner or where. It would be important to find whether the general character of these recurrent tumors was mild or severe, local or general, and what was their microscopical nature (succulent, or firm and dry).

Presumably these were mostly tumors of not great malignancy, or of a slow growth, incompletely removed, yet so that very few cancerous elements were left behind to multiply.

It may be pertinent here to mention the curious fact, though no explanation of it is ventured, that seemingly infected glands have been seen to disappear after the removal of the primary tumor in such cases even where the knotty, hard nature of the glandular swelling fully justified the assumption of its cancerous character.

Within three months sixty-three per cent. of the cases relapsed, forty-three per cent. within *four weeks*, and nineteen per cent, even before the lapse of a *fortnight.*

In about 82 per cent. of 194 cases of recurrent cancer in which this point was noted, the locality of the relapse was in the cicatrix, remains of mamma or vicinity, and in the glands.

These figures are appalling; they show that in almost two-thirds of all operated cases relapses are established within three months after the operation. Undoubtedly the great majority of these cases represent very incomplete operations, where already disseminated portions of the neoplasm were left behind, either in the vicinity of the primary growth, or in or about the infected lymphatic vessels and glands. The cases relapsing within four weeks (43 per cent.), and still more, those recurring within a fortnight (19 per cent.), must be such where either incomplete operations were performed, or where artificial operative dissemination took place, or finally where both of these influences combined to cause a rapid involvement of hitherto seemingly healthy tissues. We have to add, finally, while treating of this group, a class of cases characterized by Billroth in the following words: "Cases operated on under seemingly very favorable circumstances, in which, however, the patients are already victims of internal carcinoma, this becoming evident on post-mortem examination made soon after the operation, are unfortunately *not very rare.*" [1]

Of course, the occurrence of such cases cannot be gainsaid, but considering the gradual extension of cancer observed as a rule, such an infection by a jump, as it were, must nearly always be caused by

[1] Loc. cit., p. 117.

mechanical factors. By these are meant either a build and arrangement of the lymphatics usually favorable for the easy transmission of corpuscular elements, or a very energetic and effective external agency, such as a traumatism, or massage, or long-continued compression, or all of these combined.

But to return to our subject, we will say that Von Winiwarter does not state whether a change in the character of the malignancy of these neoplasms was observed or not on their recurrence after operation. And herein all observations are strangely defective, and unfortunately so, as this seems to constitute the nodal point of our inquiry. If it were shown that in a certain number of tumors of previously slow growth, a fast and extensive *local* recurrence took place immediately after a comprehensive and thorough-going operation, performed by a competent and experienced surgeon, it would be necessary to assume the concurrence of a factor hitherto unknown, even unthought of. And if the marginal portions of the removed tissues were found, on careful and exhaustive examination, to be entirely free of such miliary foci of cancer as can be detected by the microscope, the presumption of a direct influence upon the nature and course of the disease, by the operation, would be almost imperative.

Older surgical writers directly admit the possibility of such an influence; modern authors, as, for instance, Billroth and Volkmann, only by inference; and their reticence in this respect is easily explained by the lack of a sufficiently large sum of observations collected with a view to the ascertainment of this very point: and by the necessity of questioning the correctness of the generally accepted assumption that the operated cases show a much longer average duration of life than those let alone.

Let us now examine what this peculiar "influence" of operative or other mechanical irritation upon a cancerous growth may consist in. Excluding chemical irritation, and taking in view only forms of irritation considered to be more strictly mechanical and akin to massage, we find that this influence may be twofold. On the one hand, it may induce active hyperæmia, a better nutrition of the tumor, and hence a more rapid multiplication of existing elements *in situ*. On the other hand, and following from the first, it will increase the activity of the lymphatics, and fitly prepare them for the reception and transmission of mobile cancerous elements. Finally, the changing degrees of pressure from different sides, and its intermittent character, will not fail, in suitable cases, to propel such cancerous elements to a shorter or longer distance, and if the form of mechanical irritation is constant and frequent, a large area of the surrounding tissues may become injected with cancerous elements in a comparatively short time. Supposing that all this takes place during an operation, followed by an unavoidable stimulation of the thus infected tissues incumbent upon the processes of repair, what wonder if we see a large number of small nodes appear in and about the cicatrix, left after the removal of a solitary tumor, and within a few weeks after the operation?

Instead of assuming a mysterious, indefinable change in the character of the new growth, it is more rational to explain a natural process by natural and well-known biological laws. It may be objected that all operations followed by a rapid and wide-spread reappearance of the disease about the sites operated on, must be such in which preëxisting foci of cancer were unwittingly left behind by the operator. Admitting, as we have done before, that a large number of cases is covered by this explanation, yet we may reply to this with the following question: What is the reason, then, of the simultaneous appearance and rapid growth of a large number of cutaneous foci shortly after the operation on a formerly slowly growing tumor? Why do these foci remain dormant, or grow imperceptibly until the time of the operation, and suddenly come forward after the traumatism of an operation? And there is not only a spread, there is frequently also an increased rapidity of the multiplication of the elements, an increased malignity denoted as a *change of character;* and why this? Our explanation seems to cover these questions.

Besides, it is not impossible that young cancerous cells, sowed, as it were, into new soil, well prepared by an increased blood-supply due to the healing process, will thrive much better in this unexhausted, well-irrigated ground than elsewhere.

Of course, all this does not prejudice the acceptance of the fact that positively benign tumors do change occasionally into malignant ones, but it seems that this important mechanical factor in the growth and dissemination of cancer ought to receive some recognition. The author has begun a series of experiments tending to prove the possibility of mechanical or surgical dissemination. But the results of the investigation of the subject have not matured yet for publication.

Before completing this paper it may be appropriate to point out in a few words its practical bearings. It is not intended to question the general correctness of the advisability of operating on even far-gone cases of cancer. On the contrary, it is hoped that by pointing out one more danger, we may be taught to avoid this also, thereby succeeding more and more to improve the results of the operative measures in this field. Antiseptic treatment has here, too, undoubtedly stimulated active surgical interference, and though the author's material includes only thirty-four radically operated cases of malignant tumors of the breast, that is, such in which the breast and the axillary contents were removed, and partial operations, with no deaths resulting from the operations, this may justify the conclusion that antiseptic measures must have generally depressed the death-rate of 16.5 per cent. as given by Winiwarter.

Nothing need be said about the necessity of early operations, and the very radical, extensive removal of a wide zone of seemingly healthy tissues surrounding a cancroidal tumor. If the neoplasm be on an extremity, and is extensive, the preference should be given to an amputation made far away from the disease. Wölfler has conclusively shown on animals that during the time that Esmarch's constriction is applied to a limb the veins and lymphatics beyond the constricting band are inactive, and do not absorb even soluble substances, and that these do not enter the ostia of the vessels opened up by the sur-

geon's knife as long as the constriction lasts.[1] It seems to be rational, then, always to employ Esmarch's constriction when existing malignant tumors are situated on a limb, since it is improbable that corpuscular elements would be propelled where there is no medium, as blood or lymph, to carry them along. In examining any kind of tumor the utmost gentleness should be observed, and obscure points in the diagnosis not bearing upon the therapy, should rather be left undecided till after the operation. Unnecessary handling of a suspicious tumor should be discouraged, and the patients especially warned against so-called abortive methods of treatment, as painting with irritating chemicals, and especially, the several forms of compression, constant or interrupted.

As a preparatory measure, the hyperæmia and cell-activity of a rapidly growing tumor should be reduced as much as possible by the constant application of ice, or the water coil, for several days preceding the operation, as it is notorious that the growth of some tumors is noticeably retarded by the influence of low temperatures.

During the exsection of deeply embedded tumors all rough handling and pulling to and fro, should be avoided as much as possible. This may be very difficult in cases of large, heavy tumors, or where it is necessary to work in a deep, non-dilatable wound, wherefore the proposal of an English surgeon to fasten into each tumor, after its exposure, a sharp hook attached by rope and pulley to the ceiling of the operating room, seems to be very appropriate. One assistant can easily raise or lower even a very large tumor by traction applied to the rope running through the pulley, while the surgeon himself, holding the shank of the hook, can carry out without fatigue such lateral movements as become necessary in the course of the operation. This would deserve a trial, especially in amputations of the female breast. For self-evident reasons the axillary fat should be invariably removed, and in one mass, this being much easier and safer than the digging out of single glands. The operation should commence, if possible, with the evacuation of the axillary space and its contents, which, together with the breast and the intervening tissues, should be removed in one piece.

Primary union of the entire operation wound should be always aimed at where possible, since suppurative processes, and the increased reproductive activity of the tissues incumbent thereon, tend to cause an early development of such cancerous elements as may have been left behind.

The view that non-destructive suppuration may eliminate such cancerous elements, has no support in pathology. The surgeon should rather use his knife freely than invoke the aid of such a treacherous ally as suppuration.

[1] Archiv für klin. Chirurgie, Band 27, S. 413.

OBSERVATIONS ON NIGHT-COUGH, ESPECIALLY IN YOUNG CHILDREN.

By ALEXANDER W. Mac COY, M.D.,
of Philadelphia; surgeon to throat and nose department of the Philadelphia dispensary, etc.

It is the common experience of physicians to meet many cases (in young children chiefly) of an obstinate and irritative cough, which is particularly active at night, and which has led practitioners a devious path in the attempt to medicate it successfully. This irritative cough has caused much anxious solicitude to parents, and has brought to many little ones days of lassitude by reason of broken sleep. It appears to me that the *true* nature and cause of many of these irritative, hacking coughs have been overlooked or underestimated; nor can successful management be expected until the pathological factor present is fully appreciated.

The majority of children who have this annoying symptom at night show no appreciable illness during the day, nor is the cough then often present. Close surveillance only will detect an occasional clearing of the throat in older children; in the younger ones, occasional attempts at swallowing. In certain cases escape of mucus from the nostrils may be seen, while others require a critical inspection of the nasal chambers to reveal the presence of discharge. It is often appreciated that the child has a "cold in the head," but that any causative relation exists between the condition of the nasal passages and their products and *the cough* is not imagined.

It has been so long the rule to ignore affections of the nose in adults that it is not to be wondered at that the mucous membrane of the nasal passages in children should receive so little attention. I am convinced that there will be a complete revolution in our ideas of diseases of the nose and naso-pharynx in their *relation* to diseases farther down in the upper air-passages; and that the nasal cavities will become most important factors to be considered in properly appreciating affections of the larynx, bronchi, etc. A considerable experience in this class of cases has led me to formulate the following propositions: 1st, that many coughs are *not* dependent upon any inflammatory or catarrhal processes in larynx or bronchi; 2d, that they are *not* generally dependent upon prior enlargement of the tonsils or pharyngitis; but, 3d, that they *are* dependent solely upon a nasal catarrhal inflammation with its accompanying secretion.

It has been demonstrated by Dr. John N. Mackenzie and others that certain areas of the nasal chambers are quickly responsive to irritants or stimulants, and that mechanical irritation applied to the regions embraced by the turbinated bodies and septum posteriorly, will quickly cause an explosive act *quite* like a cough. I have also demonstrated, to my own satisfaction that the reflex cough area is not at all confined to these regions,[1] but that in a large proportion of cases, the anterior portion of the septum and vault of the nose are highly sensitive to irritants and constitute a remarkable active area of sneezing and cough. I have cases to show that the mucous membrane covering the vault or bridge of the nasal chambers, and a portion reflected upon the septum, is chiefly concerned in the production of hay asthma, serous catarrh, etc. Now, if we bear in mind these interesting facts concerning nasal cough and its production, as well as the more common occurrences of mechanical cough, we can easily accept the doctrine herein advocated.

[1] Confirmed by Hack, Wien. med. Wochenschrift, 1882-83.

The rationale of the attacks of night-cough occurring in children (and adults also), as soon as the recumbent posture has been assumed, is, that while the child is in the erect position during the day, gravity lends its force to *facilitating* the escape of the secretion from the nasal passages, either through the nostrils or posterior nares, assisted by the functional activity of the fauces, palate, larynx, etc. But at night the child retires with an accumulation of more or less discharge in the nasal passages, or some is secreted after a few hours. The child is lying down, and the effect of gravity then is to aid the discharge in gradually escaping from the posterior nares, when it forms an elastic pellicle which gradually lengthens out and slips downward along the pharyngeal wall until the free edge of the epiglottis is touched by it, when instantly the interference is resented—a cough expressing it. Again and again the effort is repeated; a constant hacking cough supervenes from this purely *mechanical* irritation. If the pellicle of mucus passes the epiglottis, it lodges upon the posterior or arytenoid portion of the larynx, and gives rise to the same symptoms. The pellicle of mucus may still be attached high up in the naso-pharynx, and being very tenacious, it can be readily understood how the cough may be kept up for hours before the mucus becomes detached and passes beyond the larynx.

It is a well-known fact that a drink given to the child will often cause a cessation of the paroxysm, the fluid simply pushing downward the exciting foreign body. This clinical fact gives us the clew to the successful management of these troublesome cases. If the nasal passages are thoroughly cleansed before the child is put to bed, the night will probably be uninterrupted by this irritative cough. If the discharge accumulates in the nasal passages or upper pharynx during the night and gives rise to a paroxysm, it is a simple procedure to cleanse the nasal chambers, and at once relieve the symptoms. Treatment can be most effectively carried out by means of a spray composed of an aqueous solution of an alkali. By its use these cases need no longer be harassing to either practitioner or patient.

1417 Walnut Street.

MEDICAL PROGRESS.

The Relation of Bacteria to Asiatic Cholera.—The investigations of the English Cholera Commission as to the relation of bacteria to Asiatic cholera has, according to Dr. Klein, ed to the following conclusions:

1. Koch's statement as to the constant occurrence of comma-bacilli in the rice-water stools of cholera patients is correct; the comma-bacilli vary greatly in numbers in different stools and in different cases, in some being exceedingly scarce, in others numerous.

2. These comma-bacilli vary greatly in length, some being twice and three times as long as others, some well curved, as much as to form half a circle, others showing only just a slight bend. The name comma-bacillus is inappropriate; the organism is more correctly termed a vibrio.

3. The comma-bacilli occur in the mucus-flakes of the rice-water stools, as well as in those taken from the ileum of a person dead of cholera. The sooner after death the examination is made, the fewer comma-bacilli are found in the mucus-flakes; even in typical rapidly fatal cases, the mucus-flakes taken from the ileum, and examined soon after death (from between fourteen minutes to an hour or an hour and a half), contain the comma-bacilli only very sparingly indeed, and not to the exclusion of other bacteria. Our investigations do not bear out Koch's statement as to the lower part of the ileum being, in acute typical cases of cholera, almost "a pure cultivation of comma-bacilli." In not one of the many post-mortem examinations of typical acute cases have we found such a state.

4. The mucous membrane of the ileum, in typical, rapidly fatal cases, if examined soon after death, does not contain in any part any trace of a comma-bacillus or any other bacteria, not even in the superficial loosened epithelium. If the post-mortem examination be sufficiently delayed, comma-bacilli and other bacteria may be found penetrating into the spaces of the mucous membrane. Koch's theory as to the comma-bacilli present in the mucous membrane secreting a chemical poison inducing the disease cannot, therefore, be correct.

5. Neither the blood nor any other tissue contains comma-bacilli or any other microörganisms of known character.

6. The behavior of the comma-bacilli in artificial media is not such as to justify their being considered as specific. They grow well in alkaline and neutral media, are not killed by acids, and their mode of growth in gelatine-mixtures is not more peculiar than that of other putrefactive bacteria; they show marked differences when grown in different media, but not more so than the ordinary putrefactive bacteria when compared in their growth with one another. The comma-bacillus of the mouth shows the same peculiar character of growth in gelatine as Koch's comma-bacilli.

7. Koch overlooked the fact that "comma-bacilli" occur in other intestinal diseases, in the mouths of healthy persons, and, as shown recently, even in some common articles of food. (By Dr. Deneke in stale cheese.)

8. The experiments performed by Koch and others on animals do not in the least prove that the comma-bacilli are capable of producing cholera or any other disease. The results obtained by them are much more easily explained in an opposite manner.

9. There is direct evidence to show that water contaminated with choleraic evacuations, and containing, of course, the comma-bacilli, when used for domestic purposes, including drinking, by a large number of persons, did not, in the case of the tanks near the Jelepara Lane, produce cholera.

10. The mucus-flakes taken from the small intestine of a typical, rapidly fatal case of cholera, contain numerous mucus-corpuscles filled with peculiar minute straight bacilli; in this state they are found when the examination is made very soon after death; soon, however, the mucus-corpuscles swell up and disintegrate, and then their bacilli become free. The small bacilli are never mixed in the mucus-flakes. They are one-third or one-fourth the length of the comma-bacilli, and about half

their thickness. They are non-mobile; they grow well in Agar-Agar jelly, but show in their modes of growth no peculiarity by which they could be considered as specific. When grown on the free surface of the nourishing material they form spores.

11. These small bacilli are not present in the blood, in the mucous membrane of the intestine, or in any other tissue.

12. Experiments made with these small bacilli on animals produced no result.

13. Since his return to London, Dr. Klein has ascertained that the comma-bacilli of cholera show two distinct modes of division, one the known one of transverse division, and a second one of division in length. When growing in Agar-Agar jelly at the ordinary temperature of the room, after some days the bacilli swell up, owing to the appearance in their protoplasm of one or more vacuoles; as these vacuoles increase, so the comma-bacilli become gradually changed, first into plano-convex, then into oblong biconvex, and ultimately into circular corpuscles. The longer the original comma-bacillus, the larger the final circle. These circular organisms are mobile, just as are the comma-bacilli; and, by disintegration of the protoplasm at two opposite points, two perfect more or less semicircular comma-bacilli are formed. Growing the comma-bacilli in Agar-Agar jelly kept at higher temperatures (30° to 34° C.), the comma-bacilli multiply by transverse division only; but, transferring these to Agar-Agar jelly, and keeping this at the ordinary temperature of the room, they again gradually change into circular organisms, which, by division in the diameter of the circle, form two new comma-bacilli.—*British Medical Journal*, Feb. 7, 1885.

DIGITAL DILATATION OF THE PYLORUS.—DR. PIETRO LORETA has successfully practised dilatation of the pylorus, for the cure of stenosis, in five cases, from which he concludes:

1. Digital dilatation of the pylorus should be a recognized operation in practical surgery, since it may radically cure stenosis, consecutive to obstacles lying in the pylorus, cicatricial stenosis, displacements of the pylorus, foreign bodies, echinococci, tumors, etc.

2. Cicatricial stenosis and other causes of obstruction to the passage of chyme should be eliminated from the number of diseases for which resection of the pylorus is indicated, and that operation should be replaced by digital dilatation as being more easily performed and less dangerous in results.

3. Experiment proves that continued sutures (in the stomach) are permanent and efficacious, and that the action of the gastric juice upon them has no injurious effect.

4. Experimentation shows, also, that incisions made (in the stomach) for the extraction of foreign bodies, should immediately be sutured, so that the risk of establishing a gastric fistula, which is frequently dangerous and rebellious to treatment, may be avoided.—*Revue Médical*, Jan. 10, 1885.

SUGGESTIONS AS TO THE METHODS OF USING COCAINE.—DR. E. R. SQUIBB in *Ephemeris* of January, 1885, makes the following practical suggestions as to the manner of using cocaine for local anæsthesia:

In applying the solution to other mucous membranes than those of the eye, a camel's-hair pencil has generally been used, but under the very best management, and upon surfaces made as dry as possible, the pencil leaves but a very small quantity upon the surface, and it is not to be expected that complete anæsthesia is easily attainable in this way, however frequent the applications, and a profuse use of the agent does no good, since it immediately runs off the surface. Neither is it of any use to apply it to surfaces coated with secretions, no matter how thin the coating, if they are of the glairy kind, since efficient contact with the surfaces is then impossible, and the waste is as complete as an application to the skin covered by epidermis. So, on its application to painful ulcers, burns, etc., care must always be taken to obtain contact of the solution by having the surfaces perfectly clean. In applying it to denuded surfaces and to mucous membranes which will admit it, the best method is to have some light covering of the desired shape and size, that will hold the solution For this purpose fine thin cotton or linen fabric is much better, and nothing can be better than well-worn fine handkerchief material. This is sufficiently absorbent to hold the dose, and thin enough to avoid waste, and to be closely applicable to irregular surfaces. When touched in situ, for resupply, the brush should be applied to the upper edge of the tissue, so as to run down through it before draining off, and the smallest possible quantity should be applied at a time if waste by running off would be avoided. Much solution is wasted by the use of camel's-hair pencils many sizes too large. Indeed, it is hardly possible to get a brush too small to convey this solution economically, unless large surfaces are to be coated. In the use of a brush for applying the solution it should never be dipped into the vial of solution, because it carries back secretions and excretions, which rapidly spoil the remaining solution, and it is thus wasted. The proper way is to drop out the quantity to be used on the bottom of a tumbler or wine glass, and dip the brush in this until it is all used, never putting any back into the vial. In this way any desired quantity may be used and none be spoiled or wasted. From reading the published accounts of the application of the solution, it seems highly probable that more of it is wasted than is really utilized, and if this waste could be stopped without increasing the number of failures, the price of the chemical would soon come down.

THE GONOCOCCUS AND THE ABORTIVE CURE OF BLENORRHAGIA.—DR. DOMENICO BARDUZZI, in the *Tip. Vanucchi*, 1884, admits the causative relation of the gonococcus in the production of blenorrhagia, and considers injections of corrosive sublimate of abortive value in the disease if practised on the first or second day after its appearance. The strength of the solution recommended is from 1 : 9000 to 1 : 3000, according to the toleration of the patient. He recommends injection of one-half of a teaspoonful of the fluid into the urethra three times a day, and cautions against making the least effort to throw it into the deep portion of the urethra. Of six cases treated, only one passed to the acute period. In the five remaining cases, the disease aborted completely within four days. For sake of precaution, the injection was continued a day longer.—*Giornale Italiano delle Malattie veneree e della Pelle*, Nov. and Dec. 1884.

THE MEDICAL NEWS.

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SATURDAY, FEBRUARY 28, 1885.

THE TUBERCLE BACILLUS AT THE ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

PERHAPS the most important discussion which has taken place in the English language, on the subject of the bacillus tuberculosis, occurred recently at the Medico-Chirurgical Society of London, when DR. PERCY KIDD read a paper "On the Distribution of Tubercle Bacilli in the Lesions of Phthisis," in the presence of the leading members of the profession of that metropolis. Neither the paper nor its discussion can be said to clear up all the uncertainty which must be admitted to hang about the question of the relation of the bacillus to the processes which previous to its discovery were commonly acknowledged to be phthisical, if not tubercular. At the same time, both have added facts which have an important bearing on the subject.

Dr. Kidd's paper is based upon a study of 80 cases, of which 75 were tuberculous, 2 sacculated bronchiectases, 2 malignant disease of the lung, and 1 dysenteric ulceration of the intestine. In the fetid contents of the bronchiectatic cavities were found numerous micrococci but no bacilli. Bacilli were invariably found in pulmonary cavities, and in nearly all cases in softening caseous material, provided that the morbid processes were associated with a tuberculous affection. Now, this statement would seem to imply that certain caseous processes were not associated with a tuberculous affection, while we are informed that all 75 were tuberculous affections. Dr. Kidd does not give his criteria of a tuberculous affection, nor whether he would consider the form of disease known as fibroid phthisis a "tubercular affection," although he says where fibroid induration was pronounced, no bacilli were found, showing that he included among the 75 cases some with fibroid induration. He also says that the distribution of the bacilli in the so-called caseous pneumonia appears to be very irregular. Thus, generally speaking, where the caseation was uniform and firm, no bacilli were found. But where the caseous process was commencing, or where softening was going on, and microscopical cavities were present, bacilli were often seen in great numbers; and the older the caseation the less the chances that bacilli would be present.

While there is no country in which the bacillus doctrine has received more general support than in England, it is plain, from the discussion which followed the reading of the paper, that English physicians are not all in accord on the subject. Some very interesting generalizations were however made. Dr. Creighton remarked that in the large class of cases included in the term granulomata, that is, leprosy, glanders, lupus and syphilis, rod-shaped bacteria not easily distinguishable, have been found. From this he deduces the fact that granulomata form a suitable nidus for the development of rod-shaped organisms. He was not satisfied that the connection between tuberculosis and the bacilli, to the exclusion of all other organisms, had been shown. Dr. Theodore Williams thought that Dr. Kidd's researches confirmed Koch's observations in every point.

Sir Andrew Clark, on the other hand, could not accept the statement that all the phenomena were to be accounted for by the tubercle bacillus, and thought such a theory at variance with clinical facts. If by phthisis was to be understood that assemblage and progression of symptoms associated with or dependent upon ulcerative or suppurative destruction of more or less circumscribed non-malignant deposits in the lung, then he was satisfied that there was a considerable number of cases within that definition in which no bacilli were found. In fibroid lungs with ulceration, bacilli could not be found either in the expectoration or in the tissues or cavities. He was not prepared to accept the view that organisms are always found in acute tuberculosis. In a considerable number of cases of caseous pneumonia, no bacilli are found until after softening has set in. In a few cases, on the other hand, they do occur, and this was to him a great difficulty in the way of accepting the theory of a causal relation. The life history of caseous pneumonia was so distinct from that of tubercular phthisis that the occurrence of the same bacillus in both forms of the disease tends to diminish the importance of the role played by that organism.

Dr. Green held that Dr. Kidd's paper is an addition to the ever-increasing accumulation of facts which tended to show that the bacillus was present in all those pulmonary lesions which were considered phthisical, and absent in others. Under the term

phthisis he included all cases of pulmonary disease which possessed (1) lung consolidation generally more or less apical; (2) lung consolidation which tended to undergo softening and disintegration; and (3) lung consolidation which possessed infective properties. From phthisis he would exclude chronic basic pneumonia, stone-mason's phthisis, etc., inflammatory disorganization from pressure on a bronchus, and syphilitic lesions.

Dr. Wilson Fox, whose comparatively recent retraction of his previous views upon tubercle—which were based on original experiments—added great weight to the bacillar doctrine, said that the old dicta about giant cells had passed away, and it is possible that even the bacillar doctrines may not be final. There is good evidence that tubercle is the only inoculable thing which produces tubercle, but it is a very grave step beyond that to say that phthisis is contagious. Dr. Reginald Thompson concluded that it is still questionable whether bacilli alone produce and propagate the disease. Dr. Moxon, on the other hand, had always felt a belief in the unity of phthisis, though he did not know its cause. Now the factor is revealed which makes phthisis one and the same thing. Dr. Moxon, too, makes the first suggestion we have yet met as to the duration of the existence of a tubercle, which is "probably three months, while that of a phthisical patient might be twenty years."

Dr. Watson Cheyne thought that bacilli might sometimes be overlooked in fibroid cases, while Dr. Heron declared they do occur in the sputum, and careful and systematic analysis discerns them sooner or later. Dr. Macnamara has failed to find the bacillus in the earlier stages of tubercular disease of bone, whereas in cases which have gone on to suppuration, the bacillus may generally be found, especially when there is a sinus communicating with the external air. He is, therefore, inclined to believe that tuberculosis of bone can originate without the presence of tubercle bacilli, and he does not consider the presence of air essential.

There is reason to believe from the above that we have been too hasty in discarding the definition of phthisis which was so generally received up to a couple of years before Koch's discovery was announced—the view which made several varieties of phthisis, of which but one was tubercular. It was the influence of the German school which shortly before Koch's discovery caused this view to be discarded and that to be substituted which made all phthisis tubercular. To us it would seem that Koch's discovery and its results tend to destroy the unity of phthisis, at least unless the clinical aspects of the disease are to be totally ignored, or until the bacillus is found in all the conditions clinically known as phthisis.

DISTAL LIGATURE FOR INNOMINATAL ANEURISM.

AT a recent meeting of the Royal Medical and Chirurgical Society, the proceedings of which are recorded in the *British Medical Journal* for January 31, 1885, MR. BARWELL read the particulars of the case of a woman forty-eight years of age, in which he successfully tied the carotid and subclavian arteries for aneurism of the innominate. At the expiration of five months the cure was found to be permanent, no enlargement could be detected at the original site of the tumor, percussion was clear, the respiratory murmur was distinct, and there was no pulse in any branch of the ligated vessels.

In the discussion which followed the reading of the paper, Mr. Holmes stated that simultaneous deligation was unnecessary. He preferred to tie the carotid first, as ligature of the subclavian might subsequently not be needed. In cases in which the stress of the aneurism falls chiefly on the subclavian part of the sac, it might be preferable to tie that vessel first; but, as a rule, ligation of the carotid completely arrests the current of blood, since it gives off no such considerable branches as does the subclavian. In addition to these points, he urged that ligature of the subclavian adds greatly to the danger of the operation.

It will thus be seen that the views of two of the most eminent authorities on aneurism at the root of the neck are in direct conflict. Hence, it may not be unprofitable to recall the statistics of the two operations, both as regards their direct results and ultimate effects, which we have endeavored to bring up to the present date.

The carotid and subclavian arteries have been tied for aneurism of the innominate alone at least 19 times, the operators having been Barwell in two cases, and Rossi, Lane, Holmes, McCarthy, Ensor, Elliot, Weir, King, Little, Stimson, Durham, Pollock, Browne, Cameron, Von Bergmann, Rosenstern, and Banks each once. Of the 19, 11 recovered, and 8, or 42.10 per cent., died as the direct result of the procedure. Of the 11 recoveries, 3 died, at intervals varying from fifty-five to one hundred and eleven days, from rupture of the sac; 2 died of phthisis at the expiration respectively, of twenty-two and forty months; 5 were living at the end, respectively, of three months, three months and a half, five months, ten months, and twenty months; and in 1 the exact date is unknown.

The carotid alone has been tied by Mott and Nussbaum each twice, and by Evans, Neumeister, Morrison, Scott, Dolhoff, Fergusson, Porta, Hutton, Vilardebo, Wright, Ordile, Broadbent, Butcher, Newton, Pirogoff, and Bryant each once. Of the 20, 5 recovered, and 15, or 75 per cent., perished. Of the 5 recoveries, the patient of Evans lived nearly forty years, 1 was living two months and a half subsequently, 1 died some time after of rupture

of the sac, 1 succumbed from asphyxia in seven months, and 1 perished suddenly in twenty months.

These data certainly do not sustain the views of Mr. Holmes. The immediate mortality of carotid ligature is greater by 33 per cent. than is that after ligature of both vessels, and it does not appear that the former operation is more important and influential in lengthening life than is the latter. Thus, there were only two permanent recoveries after carotid deligation, the cases being those of Morrison and Evans, whose patients lived respectively for twenty months and nearly forty years; while there were five final recoveries after ligature of the carotid and subclavian, namely, the two patients of Barwell, and the single cases of Cameron, Little, and Stimson, of which three were living, respectively, at the end of five, ten and twenty months, while the other two died of phthisis at the expiration, respectively, of twenty-two and forty months.

In the present state of our knowledge it may, therefore, be declared that the views of Mr. Barwell on the treatment of innominatal aneurism are entitled to greater confidence than are those of Mr. Holmes, since carotid deligation shows 33 per cent. more of deaths, and 16 per cent. less of final cures, than does simultaneous ligation of the carotid and subclavian.

THE PREVENTION OF INFECTIOUS AND CONTAGIOUS DISEASES IN SCHOOLS.

The Medical Officers of Schools Association, which was formed in England in 1884, has just issued a code of rules for the prevention of infectious and contagious diseases in schools, which contains some valuable suggestions, and which is important as being a formal expression of opinion on the part of medical men and sanitarians who have specially investigated the subject of school hygiene.

The first section relating to general hygiene gives the usual advice with regard to house-drainage, dust-bins, etc., and advises that the medical officer of the school shall inspect the premises at least once a month, and that he should make an annual return of the sickness in the school to the governing body.

With regard to the length of quarantine that should be required if a pupil has been exposed to an infectious disease, it is stated that this depends chiefly upon whether the school has or has not that very valuable safeguard—a disinfecting apparatus; which apparatus should be large enough to hold a full-sized mattress. If the school possess such an apparatus, then the quarantine should be a day or two more than the longest known period of incubation of the disease in question; if not, the period should be longer still, as there is no definite time when the clothing is certain to be free from infection.

The following quarantine times, after exposure to infection, are recommended as safe if thorough disinfection be carried out on the pupil's return to school:

Diphtheria	12 days' quarantine.
Scarlet fever	14 " "
Measles	16 " "
German measles	16 " "
Chickenpox	18 " "
Smallpox	24 " "
Mumps	24 " "
Whooping-cough	21 " "

Disinfection at home, it is urged, should not be relied on, but, immediately on the pupil's return to school, he should be washed with carbolic acid soap (ten per cent.) from head to foot, in a hot bath; and that clothes, books, and *everything* brought back by him, should be completely disinfected.

With regard to the question, "when may a pupil who has had an infectious disease go home or rejoin the school," the following are recommended as safe rules, viz.:

Scarlet fever—in not less than six weeks from the date of the rash, *if* desquamation have completely ceased, and there be no appearance of sore throat.

Measles—in not less than three weeks from the date of the rash, *if* all desquamation and cough have ceased.

German measles (Rötheln, or epidemic roseola)—in two or three weeks, the exact time depending upon the nature of the attack.

Smallpox and chickenpox—when every scab has fallen off.

Mumps—in four weeks from the commencement, *if* all swelling have subsided.

Whooping-cough—after six weeks from the commencement of the whooping, provided the characteristic spasmodic cough and the whooping have ceased; or earlier, *if* all cough have completely passed away.

Diphtheria—in not less than three weeks, when convalescence is completed—there being no longer any form of sore throat, or any kind of discharge from the throat, nose, eyes, ears, or other parts, and no albuminuria.

These rules are prepared more especially for the use of boarding-schools, but in most respects they are applicable to day-schools as well, and there can be little doubt of their good effects if properly carried out.

THE NATIONAL MEDICAL LIBRARY.

The condition and prospects of the legislation now pending in Congress for the providing a proper fire-proof building for the Army Medical Museum and Library are satisfactory.

On the 16th inst. the House passed a bill appropriating two hundred thousand dollars for such a building, to be constructed upon the Government

reservation, in the vicinity of the National Museum and Smithsonian Institution. To this the Senate will not agree, because it has taken the position that no more buildings shall be placed on Government reservations, but is willing to appropriate money to purchase a site—to which last proposition Messrs. Randall and Holman in the House will not agree. Meanwhile the Librarian of Congress and his friends, who want to sweep the Library of the Surgeon-General's Office into the proposed National Library, of which the said Librarian is to be in charge, are doing their best to prevent the reaching any common ground of agreement by the House and Senate.

In the debate in the House upon the passage of the bill it was opposed by Messrs. Potter and Nutting, of New York, on the ground that the books should be placed in the National Library. Mr. Potter objected on the ground that "this library and museum will end at last in a staff of officers to take care of it, and at the national expense, and an annual appropriation will be demanded to support and continue it for ever." And why not, Mr. Potter? Is there any other way of expending a similar amount of public money that will do one-tenth of the good to the people that the small annual appropriations for this library and museum have already done and will continue to do? In what way will there be any saving of expense by placing these books under the charge of the Librarian of Congress? Mr. Potter furthermore remarked that he "did not believe that we are to gain by preserving the relics and bones or wounds caused by the war, and that he wished they were all buried and hidden out of sight."

We presume that it is hardly necessary to explain to the readers of The News the short-sightedness of such a policy as this. Nothing will be saved by merging these collections with others. If it was only a question of four or five thousand volumes of books and a few hundred specimens, something might be said as to the economy of joining them with others—but when it comes to a hundred thousand volumes and a large anatomical and pathological museum, the case is altogether different. It will cost as much to care for them properly in a large building as in one devoted especially to them—nay, more, if the former is to be of marble and the latter of plain brick as proposed. This, however, is a consideration of very minor importance.

The merging of our great medical library, of which the medical profession of this country are now so justly proud, and in which they are so deeply interested, would be a calamity which we should endeavor to avert in every possible way. The utility and prosperity of the National Medical Library and Museum depend largely upon their being kept together, and preserving their individuality under skilled management. No greater mistake could be made by Congress than to destroy this individuality, and with it the strong helpful interest now taken in these institutions by the profession. This is one of the points upon which all medical men are agreed, and we do not doubt that they will at once exert both their individual and collective influence to prevent the carrying out of such a scheme.

If the bill to provide a plain but commodious fireproof building for our National Medical Museum and Library fails this session, it will be due to a few ambitious, selfish men who would ruin what they cannot rule, and the physicians of this country must see to it that the members of the next Congress are so instructed that there shall be no possibility of failure next time.

Meanwhile, we still hope that the present Congress will do its duty in the matter, which is one of the greatest possible importance to medical education and medical science, and, therefore, to all who have need of the services of skilled physicians.

SOCIETY PROCEEDINGS.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, February 19, 1885.

The President, A. Jacobi, M.D., in the Chair.

Dr. Gaspar Griswold read a paper on

ELECTRICITY AS A STIMULANT IN CARDIAC AND RESPIRATORY FAILURE.

Electricity, he said, has long been conspicuous among the agents that are resorted to for the relief of sudden prostration attended with cardiac and respiratory failure, such as is apt to occur from the use of such poisonous drugs as opium and chloroform; and the object of the paper was to inquire how far the methods employed were in accordance with what is known in regard to the physiology of the heart's action. Having referred briefly to the effects of the two currents, the galvanic and the faradic, he proceeded to ask, Can electricity be so applied as to stimulate the heart directly? In order to decide this, he said it was necessary to glance at the mechanism of the heart's action; and in doing this, he referred particularly to the retarding effect exerted by the pneumogastrics as opposed by the action of the accelerators of the heart. The action of the pneumogastrics was always inhibitory, while the accelerator nerves increase the rate of the cardiac pulsations at the expense of force. It was evident, therefore, that in order to stimulate the heart it would be necessary to apply the electricity to the organ itself. As a matter of fact, however, it was found that when one or both electrodes were placed over the præcordial region, the heart-beat was retarded. In order to illustrate the effect of doing this, he would refer to two cases. The first, reported in the *Philadelphia Medical Times* of June 4, 1881, was one of death from cardiac failure after etherization. The pulse was feeble and beating 180 to 200 per minute, while the respirations were quiet and regular, numbering about 22. Hypodermic injec-

tions of tincture of digitalis and whiskey, and of digitalis and sulphate of atropia were given, in addition to an enema of whiskey. "Then," the account goes on to say, "the faradic battery, which had been brought to the bedside, was suggested as a remedial agent, but as the respiration was continuing comparatively unaffected, it was only applied for a short time, with one pole to the neck, and the other in the præcordial region." The patient continued to sink, notwithstanding the further injection of the remedies mentioned, and died a little more than an hour after the anæsthetic was withdrawn. The idea here, said Dr. Griswold, was to stimulate the heart; but the reverse effect was noticed, and the use of the battery might readily have caused the patient's death.

The second case, reported in the *British Medical Journal* of July 2, 1881, was one of poisoning by bitter almonds. When seen, the patient was quite insensible and collapsed; breathing gasping and labored; he was cyanotic; the pulse was hardly perceptible, rapid and flickering, and the heart's apex-beat weak and rapid. The stomach-pump was at once used, and the stomach was then washed out with warm water, after which the patient became more collapsed, and his radial pulse almost ceased. The battery was now used for ten minutes—one pole over the apex of the heart, the other on his neck, over the course of the pneumogastric nerve. In twenty minutes, liquor ammoniæ fortior was given as an inhalation, and the current from twenty-five cells of Leclanché's battery applied as before, contact being made and broken with the inspirations. The battery and ammonia inhalations were then continued alternately, at first every ten minutes, and afterwards every half hour, for about four hours. The patient recovered, and this was attributed mainly to the employment of the electricity. It was a fact, however, that the current from a battery of twenty-five cells applied to the pneumogastric would kill a large dog, and that that from six cells would cause faintness in human beings; and therefore this treatment was improper. The recovery might be explained on one of two suppositions: either the battery was out of order, as batteries are very apt to be when called into sudden requisition, or else the pneumogastric had already become paralyzed, paralysis of this nerve being one of the results of hydrocyanic acid poisoning. It was stated in the report that the bitter almonds were eaten three hours before the electricity was applied, which would have given time for this effect to be produced. The application of electricity in this way was, then, the reverse of stimulating in its effect upon the heart, and involved great danger to life if a strong current was employed.

In regard to the respiratory function, he said that the stimulation of the phrenic nerve caused contraction of the diaphragm, and it was perfectly rational, therefore, to apply electricity to the neck for the purpose of counteracting respiratory failure. This might be done in two ways, either by applying a mild current continuously, or by employing one of sufficient strength to excite at once a deep inspiration, and repeating it at intervals of three or four minutes. Good results had been reported from its use in this way in opium poisoning, but the effect was always due to the stimulation of the phrenic nerve alone. Theoretically it was impossible to apply a current to the phrenic without affecting the pneumogastric also, because they lay so close to each other in the neck. The function of the pneumogastric was to retard or even stop the heart's action; but as in opium poisoning this nerve was apt to be paralyzed, electricity could be applied to the neck in this condition with a prospect of its affecting only the phrenic nerve. He knew of one case of opium poisoning, however, in which instant death was produced by the sudden application of a current in this locality for the purpose of stimulating the phrenic, through the effect that it had upon the pneumogastric. The conclusions which he derived from the foregoing considerations were: 1. That electrical stimulation of the phrenic nerve is liable to stimulate the pneumogastric also; 2. That only mild currents should be employed; and, 3. That especially should the sudden application of a strong current in the neck be avoided.

The circumstances under which his attention was first directed to this subject were the following: A patient that he was attending got an overdose of tincture of aconite root through the druggist's mistake in neglecting to add the water in a prescription which he had ordered containing this drug. The application of electricity to the neck, on account of the embarrassment of respiration present, was advised by Prof. A. A. Smith, who was called in consultation; but Dr. Griswold opposed this on account of the bad effect it might have on the heart's action through the stimulation of the pneumogastric nerve in addition to the phrenic. On account of the interest in the matter which this case excited, he determined to make some investigations himself, and, therefore, performed a series of experiments on dogs. He first applied a faradic current to the pneumogastric, and found that it appreciably slowed the action of the heart, as indicated by a Marey's cardiometer inserted into the carotid. The animal's system was then brought under the influence of aconite; when it was found that no effect whatever was produced upon the heart by the same strength of current. Even when the current was increased to the full strength, there was still no effect; the explanation being that the pneumogastric was paralyzed by the drug. He did not wish to claim any originality for this experiment, which he repeated with two other dogs, as it had been performed by others previously; but he was glad to know that the results which he obtained were corroborated by the observations of other investigators. The deduction that he drew from it was that there is no danger from electricity in aconite poisoning, and it is, therefore, perfectly safe to apply it to the phrenic nerve. Consequently he believed that Prof. Smith had been right in advising its use in the case to which he had referred.

The next experiments were with dogs under the influence of chloroform. A faradic current was applied to the pneumogastric, and the effect was instantaneous. In one case the heart stopped in diastole, and did not beat again, and while death occurred less promptly in the others, the result was the same. Deduction: The pneumogastric retains its excitability in chloroform poisoning, and it is, therefore, extremely dangerous to apply electricity to the neck in this condition. In asphyxiation by ether, he found that the heart could stand stimulation of the pneumogastric as well as in health, and he concluded, therefore, that it was safe to stimulate the phrenic nerve to a certain extent in this

condition. Chloroform was a direct cardiac depressant, while ether was not. In opium poisoning, when well marked, the pneumogastric was paralyzed, and there was, therefore, less danger in stimulating that nerve in this condition than in health. When morphia was injected into a vein, however, he found that the case was different, and the deduction that he made from this experiment was that when morphia is injected into a vein, the heart is easily depressed by the application of electricity to the pneumogastric.

His general conclusions were as follows:

First. Electricity cannot be applied clinically in such a way as to stimulate the heart, literally speaking.

Second. The application of one pole of the battery to the neck and the other over the præcordial region, when the pneumogastric is not paralyzed, may result in death.

Third. The stimulation of the phrenic nerve also stimulates the pneumogastric, on account of the proximity of the two nerves.

Fourth. The liability to depress the heart from stimulation of the pneumogastric in connection with the phrenic is not great in aconite, ether, or opium poisoning, on account of the paralysis of the pneumogastric produced by these drugs.

Fifth. In heart-failure from chloroform, and the injection of morphia into a vein, the application of electricity to the neck is strongly contraindicated.

Sixth. Under no circumstances should a current strong enough to cause muscular contraction be applied suddenly to the neck.

DR. A. D. ROCKWELL remarked that what he should have to say would be, in the main, confirmatory of the views expressed by the author of the paper. Electricity had long been recognized as of special value in stimulating the respiratory function, rather than the action of the heart. A few years ago it had been claimed by certain authorities that the action of the two pneumogastric nerves, on the two sides of the body, was somewhat different in character; the one affecting the respiration more, and the other the cardiac functions. Clinical observation in the use of electricity, it seemed to him, had afforded a considerable amount of corroborative evidence of the correctness of this hypothesis. One of the most important things about the action of electricity, and one which was apparently very imperfectly understood by medical men, as a rule, was its secondary influence. As one who had paid much attention to the subject of electro-therapeutics, he fully appreciated the force of the statements made by Dr. Griswold. Theoretically. his views were undoubtedly sound; but, as a matter of fact, he did not believe it was necessary to use electricity with such extreme caution as had been advocated in the paper. Some time ago, Brown-Séquard, Anstie, and others, had laid stress upon the great danger of applying electrical currents to the central nervous system through the pneumogastrics. He could easily understand why such unpleasant results as they mentioned might be apprehended, reasoning from the physiological functions of the pneumogastric; but, practically, he did not believe the application was so dangerous as was inferred. In this connection he related a case he had seen two years ago, in which he was called to attend a patient who was in an unconscious condition from some narcotic poison, afterwards ascertained to be opium. When first seen, the respirations were about ten to the minute, and the pulse about forty. The application of the faradic current to the phrenic nerve in the neck had a very striking effect, and immediately the respirations went up to normal. The pulse also rose under the action of the electricity, and for two hours the application was kept up intermittingly. At the end of two hours, however, both the pulse and the respiration began gradually to decline, notwithstanding the continued use of the agent, and after four hours of treatment the patient seemed to be in exactly the same condition as when first seen. Under these circumstances the case was believed to be utterly hopeless, and further treatment was abandoned; but, strangely enough, reaction set in after a time spontaneously, and the patient recovered. The practical lesson to be derived from this case was, he thought, that as long as there was any breath at all left in a patient's body, the use of electricity should be kept up. Here undoubtedly the employment of the current for four hours had tided over the system under the depressing influence of the opium until nature had a chance to assert her powers.

DR. FORDYCE BARKER remarked that there were two or three collateral points of practical interest in connection with the paper upon which he should like to say a few words. One was the comparative influence of ether and chloroform on the heart, and he thought there were certain clinical facts bearing on this which would seem to militate against what might be inferred from the paper. In obstetrics he had found that chloroform had a very different effect from that which it had when given as an anæsthetic in surgical practice, and in a paper which he had written many years ago, he had expressed the opinion that ether was much the safer agent to use in general surgery, and chloroform the safer in obstetrical cases. The reason that he assigned for this was that in surgical practice the anæsthetic was given to anticipate suffering, while in the case of the parturient woman it was used for the relief of pain already existing. Under the latter circumstances, he believed the system would tolerate the depressing influence of a drug which it might not in ordinary conditions.

It had long been an accepted point in the opinion of the profession that it was unsafe to administer an anæsthetic when there was organic disease of the heart; but it was, at least, twenty-five years since he had ceased to believe that the existence of such disease was a contraindication against the use of chloroform in pregnant women. On the contrary, the presence of cardiac trouble was to him an indication which induced him to resort to this anæsthetic at an earlier period than usual. Ether, however, was not safe, and its use in such cases was to be condemned. That chloroform was a protection rather than a dangerous or injurious agent, under the circumstances, was strikingly shown in the case of a patient in the lying-in wards of Bellevue Hospital, which he had seen many years ago. When this woman came into the wards, expecting to be confined, she was found to be in the advanced stages of valvular disease of the heart, with marked dropsy, dyspnœa, etc., and her case was watched with much interest. One night he was summoned hastily to the hospital by the *interne*, as labor had commenced, and she was in such an alarming condition that fears were entertained that she would not survive delivery. She was suffering

from great depression of the vital forces, and at every pain the pulse would fail entirely. Under these circumstances, he concluded to try the effect of chloroform, and immediately the patient's suffering was completely relieved. The administration of this was kept up for some time, and while the patient remained perfectly comfortable, the uterine contractions went on in a very satisfactory way. The pulse and the whole condition steadily improved under its use, and the delivery was accomplished without difficulty; the uterus also contracting well afterwards. She rapidly improved after her labor, and when she left the hospital her friends remarked that she was looking better than she had for a long time previously. During pregnancy he believed that there was a normal physiological hypertrophy of the heart, and at the time of parturition he thought there was a saving of vital or nerve power secured by the administration of chloroform, which more than counterbalanced any tendency on the part of the drug to produce failure of the heart. That the same thing would be true in case of ether being substituted for chloroform, he did not believe; and he would repeat, therefore, that obstetricians should never use any other anæsthetic than chloroform. Within the past two years, a physician in Edinburgh, whose name he could not just now recall, had written a book in which very much the same views as his own in regard to the position of chloroform in midwifery practice were expressed.

Dr. R. W. Amidon said that he agreed fully with the opinions expressed in the paper, but regretted that its author had not pointed out what remedies could be depended upon to take the place of electricity, which he had so admirably shown did not deserve the position in the class of cases referred to which it had hitherto held in the opinion of the profession. He could see why Dr. Rockwell, who is a specialist, and therefore exceedingly skilful in the application of electricity, should take a somewhat different view of the safety of the agent from that entertained by the reader of the paper, who is a general practitioner; but in the pressing circumstances of the emergency, in which physicians were ordinarily called upon to treat a case of opium, ether, or chloroform narcosis, for instance, the chances were that the electricity would by no means be applied in an efficient or judicious manner. It is not a simple, but a powerful and dangerous remedy, which comparatively few medical men know how to use intelligently. On the other hand, artificial respiration is a means of treatment which all can employ without danger of doing any harm, and which is very likely to be followed by good results in all cases of respiratory failure; while it is a fact which ought not to be forgotten, that in many cases the cardiac failure is secondary to this.

Dr. L. Putzel was of the opinion that, while the physiological aspects of the subject were well stated in the paper, the deductions from experiments on animals were not trustworthy. In the human subject no method had yet been devised for applying electricity directly to the pneumogastric nerves; so that the best electrotherapeutists spoke now simply of galvanization of the neck. With regard to the evil effects of the application of a strong current to the neck, he thought these had been exaggerated in the paper, since he himself had frequently used a current from a twenty-five cell battery, in perfect order, in this situation, and was still constantly doing so in cases of exophthalmic goitre, without producing any appreciable effect upon the heart or respiration. From a clinical standpoint, the subject is one which he thought needed revision. As had been well said, physicians are apt to be extremely careless in this matter, and in the report of a case it would not do simply to state that electricity was applied.

Dr. J. Leonard Corning said he must take exception to the statement made by the last speaker, that it was impossible to apply faradization to the pneumogastric nerves, and proceeded to describe a method of his own by which he claimed to have successfully done this. This, he believed, was proven by the effects produced, and he said that in a case of exophthalmic goitre he had reduced a pulse of 140 to 80 within a period of three months.

Dr. Andrew H. Smith remarked that in opium poisoning the great difficulty was usually in the respiratory function, and therefore the principal object was to stimulate the failing respiration. The fact could not be denied that it was usually possible to produce a full respiration by the application of electricity to the phrenic nerve; and if this was repeated about sixteen times a minute, it was apt to be followed by good results. It should not be done oftener than this, though there was a strong temptation to push the application; and in this way the cardiac failure might be secondarily arrested. Electricity was also useful as a general stimulant in opium poisoning. Flagellation was often injudiciously practised, and from the abuse of this there was liable to arise the added danger of shock.

Dr. Putzel explained that he did not wish to be understood to say that galvanization of the neck *never* slowed the pulse, but that in his own experience he had never observed this effect.

The President said that in former years he had used electricity a great deal in cases of cardiac and respiratory failure, such as was seen in opium poisoning, but more especially in the asphyxia of the newly born. He had found that if the current is used more or less continuously for any length of time, while at first these functions are stimulated, the increased activity is afterwards followed by paralysis; and that this effect is reached the more speedily the closer to the phrenic and pneumogastric nerves he applies the electricity. This experience taught him, therefore, that the best practical way of using the agent is not to confine the current to the nerves, but to apply it generally to the muscles. His method is to keep one electrode on the body and then bring the other in contact with the skin in a succession of quick applications to the various parts of the surface, and this is the plan that he would advise in cases of opium poisoning. The shock thus received is often sufficient to excite the respiratory function, and he quite agreed with Dr. Amidon that the failure of the heart is often secondary to that of the respiration. The electrode used for those general applications upon the surface should preferably be a faradic brush.

Dr. Griswold said that in his paper he had dwelt upon three points. The first was that the heart cannot be reached in such a way as to be stimulated efficiently and certainly. He would not have thought it necessary

to lay any stress upon this had not the two cases to which he had referred at the outset, published in medical journals of high reputation, led him to believe that such an opinion might be entertained by a certain number of physicians. The second point was to call attention to the fact that the pneumogastric and phrenic nerves lay so closely together in the neck that the stimulation of one was impossible without that of the other in addition. In opium poisoning, where the patient was well narcotized and the heart's action had become frequent, we could stimulate the pneumogastrics with impunity, on account of their state of paralysis. In the case of instant death to which he had referred (of which he had learned from Dr. Janeway, who had expected to be present and speak more particularly of it), the pneumogastric had not yet become completely paralyzed at the time the current was suddenly applied to it. It was, therefore, confirmatory of the results shown by his own experiments on dogs; so that he believed that the reason why more patients suffering from opium poisoning were not killed by the application of strong currents to the neck was on account of the complete paralysis of the pneumogastric. The only point that his experiments bore on, he continued, was the exaggerated sensibility of the heart to the action of electricity. In chloroform poisoning particularly, he believed it was best to rely on artificial respiration, which was safe and efficient, while stimulation of the phrenic nerve was not safe or efficient. The hypodermic injection of ammonia, alcoholic stimulus, etc., might also be employed. In regard to chloroform, Simpson was the first to show that it was much more of a local anæsthetic than other drugs of its class. The local effect of ether was simply one of freezing, on account of its rapid evaporation.

Dr. M. Josiah Roberts gave a description and practical

DEMONSTRATION OF THE WORKING OF ROBERTS'S IMPROVED ELECTRO-OSTEOTOME; A NEW FORM OF PORTABLE STORAGE BATTERY AND AN ELECTRICAL ILLUMINATING APPARATUS.

The osteotome is an improved form of the one described in the *New York Medical Record* for October 20, 1883, and consists of an electro-motor with a central shaft, to the extremity of which saws of various sizes can be attached. It is claimed that perfect accuracy of cut can be secured with the instrument. Five seconds are required to saw through an adult femur, and Dr. Roberts stated that in his largest osteotomy at one sitting he had made six sections of bone in thirty seconds. A drill can be substituted for the saw, and by this means exploratory punctures can be made into the heads of bones, answering to exploratory punctures of soft parts with the hypodermic needle. The apparatus is also provided with an electric light, which can be used when necessary; two cells of the battery being reserved for the purpose of maintaining it. Metallic retractors are employed for the purpose of protecting the soft parts while the osteotome is in operation. The improvement is the increased oxidation on the surface of the leaden plates used, and Dr. Roberts claims that it can be implicitly relied upon for all practical demands.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, February 16, 1885.

The President, Charles A. Leale, M.D., in the Chair.

Dr. Theodore R. Varick, Surgeon-General of the State of New Jersey, read a paper on

THE PROTECTIVE TREATMENT OF OPEN WOUNDS.

However different his views may be from those entertained by a large number of surgeons, he said, they are not the inspiration of a moment, but the conviction of long-protracted observation. In grave surgical injuries the sources of trouble were, first, from shock and hemorrhage; and, secondly, from sepsis; and from time immemorial it had been the aim of surgeons to minimize the dangers of the former, and prevent the occurrence of the latter. In order to accomplish this latter end, it was desirable to protect the parts as perfectly as possible from external influences, and any method by which they could be hermetically sealed, and yet which would not result in causing irritation of the tissues beneath, would certainly be a great desideratum. In order for the production of sepsis, a solution of continuity was necessary. At first the danger was warded off by the constant exudation from the vessels of the injured parts. When this ceased, the open stomata of the vessels afforded a ready avenue for the absorption of septic material, unless something was done in the meanwhile to close or cover them.

Having read the description given by Sir James Paget in Holmes's *Surgery* of the appearances presented by open wounds, he made the following quotations from Flint's *Physiology* in regard to blood-serum: "The serum contains all the elements of the blood, except the red corpuscles and fibrin, which, together, form the clot." "It contains all the principles found in the plasma, or liquor sanguinis, with the exception of the fibrin. It can hardly be called a physiological fluid, as it is formed only after coagulation of the blood, and never exists isolated in the body." Blood-serum is largely albuminous, and it was this element, Dr. Varick continued, which he had to consider. On the coagulation of the albumen depended the success of the method of treatment of open wounds which he advocated; and since he had adopted this plan, he had yet to meet with the first case of septicæmia in his practice.

It was, indeed, to their property of coagulating this element that the bichloride of mercury and carbolic acid owed their reputation as antiseptics in surgery; but there were positive objections to both these agents, which, in his opinion, rendered them, as a rule, entirely unsafe to use. In regard to the bichloride, there was a possibility of constitutional effects resulting from its use, and several cases had already been reported in which severe tenesmus had been caused by it. Another objection to it was its irritant effect locally, and in this connection he quoted from an address made by Sir Joseph Lister at the opening meeting of the Medical Society of London October 20, 1884, in regard to the case of a lady from whom he removed the mamma and cleared out the axillary glands, as follows: "I put immediately over the wound a piece of prepared oiled silk, which I dipped in a 1 to 500 solution of corrosive sublimate; then, over this, sublimate gauze, and outside

all, abundant eucalyptus dressing. On the following day, when we changed the dressing, I found that under the oiled silk, exactly corresponding to this extent, the skin was highly irritated, and was covered with small vesicles. I also found that the inner side of the arm, where there was no wound, was in the same state of intense irritation. . . . . While this case showed that in the sublimate we had an agent that might give very beautiful results, it also indicated that we were dealing with an edged tool, which, while it might do admirable work, was very apt to cut our fingers."

In speaking of carbolic acid, he quoted Bartholow (*Materia Medica and Therapeutics*) as follows: "Applied to the external integument, carbolic acid is absorbed and systemic effects follow, the urine becoming smoky. Fatal poisoning has resulted from such applications (Köhler)." In a case of Dr. H. B. Sands, of New York, in which the patient had been subjected to the operation of amputation of the thigh for ununited fracture of the femur, for five days after the operation the urine was green in color; an effect due to the absorption by the wound of carbolic acid, and in accordance with the antiseptic method of operating (*New York Medical Record*, vol. xx. p. 151). Mr. A. Pearce Gould had reported at the Clinical Society of London, in 1879 (*Lancet*, April 26 and May 17, 1879), a case of amputation at the hip-joint, in which the patient died at the end of sixty-eight hours. At the autopsy all the veins of the left foot, leg, and thigh, were found to be filled with black coagulum, which reached into the common iliac vein; the thrombosis being due to carbolic acid poisoning. All went well up to forty hours after the operation, when suddenly and coincidently with the excretion of carbolic acid urine, the fatal symptoms set in—symptoms which were not merely local and limited to the affected limb, but general. Dr. Varick then referred to a large number of other cases in which fatal or dangerous results had followed the local use of carbolic acid, reported by both American and foreign writers. Among the former was Dr. Alfred C. Post, who reported at the New York Pathological Society, March 26, 1879, a case in which death was only averted with the greatest difficulty. A subacute abscess in the gluteal region, connected with old disease of the hip-joint, in a child five years of age, was evacuated, and the cavity injected with a solution of carbolic acid, according to the method advised by Callender; when in a few hours the patient presented the constitutional symptoms of profound carbolic acid poisoning. In an almost precisely similar case reported at a meeting of the Boston Society for Medical Improvement, held March 28, 1881, by Dr. S. H. Bradford, the patient died. The abscess contained about eight ounces of sero-purulent fluid. Carbolic spray was played upon the limb during the incision; the abscess was hyperdistended with a solution of carbolic acid of a strength of one to forty. The patient recovered quickly from the ether, but in the following night was seized with obstinate vomiting, which persisted during the morning, but stopped at noon. It returned again in the night, and the following morning the child was in a feeble condition. The urine that was passed was tar-colored, and death took place two days later, with symptoms of collapse. Having referred to some experiments on turtles and frogs, by Dr. H. G. Byer, U. S. N., which showed in a striking manner the depressing effects of carbolic acid, he said, in summing up, that both carbolic acid and bichloride of mercury were undoubtedly liable to excite toxic effects, and were therefore unsafe.

What method are we to adopt, then, in the treatment of wounds, he asked. For six years, he said, it had been his practice to use *hot water*, slightly below the boiling point, freely and continuously, until all oozing had ceased. The effect of this was to cause the formation of a protective shield from fibrogenous material which was always available. This procedure, he claimed, not only facilitated healing, but also tended to prevent shock. By the transmission of heat it assisted in strengthening the heart's action, and he had had no death from either primary or secondary shock in his public or private practice since he had adopted it, although his hospital experience had been very large. The method presented the following merits: 1. Simplicity; 2. Availability; 3. Safety; 4. Invulnerability.

In order to test the protective agency of albumen, he had performed a number of practical experiments. Among them were the following: On the 13th of October, 1884, he had taken twelve test-tubes, and, having thoroughly cleansed them, partially filled them with freshly prepared beef-tea. He then divided them into two sets. Over the mouths of five of the first six he placed linen covers coated with serum, leaving the sixth uncovered, while five of the other six were also covered, but with material that was not coated with serum. Within twenty-four hours the beef-tea in three of the second set of tubes was milky and turbid, and within forty-eight hours, the contents of the remaining three were manifestly undergoing decomposition. At the present date, four months after the serum-coated coverings had been applied, the beef-tea in all the test-tubes treated in this way was found to be as clear and fresh-looking as on the day on which it was put into them. (The test-tubes were handed round for the inspection of the members.)

He had commenced a second series of experiments on January 21, 1885, preparing seven test-tubes in the same manner as before, and covering six of them with linen coated with serum, but leaving the remaining one open. Within twenty-four hours the beef-tea in the latter was loaded with bacteria, and decomposition was advancing rapidly; but the contents of all the other tubes still remained in a perfect state of preservation. This paper, Dr. Varick remarked, in conclusion, was intended to be supplementary to one which he read in May, 1884, before the Surgical Section of the American Medical Association, on "Railroad Injuries of the Extremities, with Observations on the Site of Amputation and Subsequent Treatment of the Stump."

DR. WILLIAM DETMOLD said that he had been the more interested in the paper from the fact that the practice therein advocated had been the one which he had himself pursued throughout his whole professional career, with the exception that he had not employed the water hot, like Dr. Varick. He had never yet been converted to the germ theory, and had always condemned the use of carbolic acid and other so-called antiseptics. He had been accustomed to using simply a compress with even the largest wound. The hot water might perhaps be an advantage, but he thought that Dr. Varick had not demonstrated the fact that the water he employed

was hot enough to coagulate albumen. He did not feel certain that the albumen would not coagulate, or rather become dry, without heat in the case of wounds. In private practice, he had never seen any sepsis in connection with the latter, except in certain localities, generally the scrotum or some other part of the genito-urinary tract. What was it, he asked, that made internal urethrotomy so dangerous? A great many cases of this proved fatal, while such a result was very rare in external urethrotomy, in which we would naturally expect to find it most frequent, according to the hypothesis of atmospheric germs, on account of the free access of air to the parts. In internal urethrotomy, this was not the case; but the cutting was done in a situation where the cellular tissue was loose and the large vessels did not contract readily. He thought pus got into the veins without the agency of any germs.

In regard to water dressing for wounds, he believed that the use of even cold water might be carried to a degree that was injurious, and he had seen it almost macerate the skin. It was his custom to apply compresses now that were wrung out, so as not to drip, and in this way the possibility of macerating the epidermis was obviated. Notwithstanding the prevalence of the new fashion of antiseptics and drainage-tubes, he had always adhered to the old methods. He had been brought up to consider that in surgical practice foreign bodies should always be removed, and he did not like the idea of introducing additional foreign substances into the tissues. In regard to Dr. Varick's experiments, he thought it had not been proven by them that blood-serum, without being exposed to heat, would not have the same effect as the serum after having been thus exposed to heat; and it was his opinion that it had.

DR. VARICK said that he did not know that he was fully prepared to answer Dr. Detmold's objection. Physiologists tell us that albumen outside of the body remains fluid until it is subjected to heat or some chemical agent, having the power of coagulating it. When it is exposed without the influence of these agencies, the process which it undergoes is simply one of desiccation rather than coagulation. If there is anything in the germ theory (according to which sepsis is caused by the admission of foreign disease-bearing organisms), during the time required for the albumen to desiccate there was ample opportunity for the introduction of such germs; but if measures are taken to secure the prompt coagulation of the albumen, before the outward flow from the vessels of the injured part had ceased, such an occurrence is rendered impossible.

DR. J. W. S. GOULEY remarked that there were several points of great interest touched upon in the paper, but he would refer to only one or two of them. In regard to the treatment of wounds, it had long been agreed upon by all surgeons that, whether from fear of contamination of the injured parts or to facilitate more prompt union, it was desirable to bring about coagulation of the serum effused. Years ago, it had been his custom to apply to the surfaces of all wounds a solution of chloride of zinc, prepared in accordance with the formula of Dr. Pancoast, of Philadelphia; the object being to accomplish exactly the thing which Dr. Varick now succeeded in doing by much simpler means. With the idea of obtaining as thorough coagulation as possible, he had always waited for an hour or more before closing the wound; by which time he found that it was usually completely glazed. He had met with a certain proportion of cases of septicæmia; and in his experience profuse hemorrhage was more apt to be followed by pyæmia than any other accident or condition. Like Dr. Detmold, he was not yet a convert to the germ theory, and it seemed to him that excessive loss of blood was a much more probable factor in the causation of septic trouble than the admission of any so-called germs. He differed from Dr. Detmold, however, in believing that the pus did not enter the veins from without, but was really formed in them. When a thrombus had occurred, it was liable to undergo disintegration, and thus it was that suppuration took place in the liver and other parts. He had seen patients die, not from hemorrhage, but from the putrescent condition of the injured part, within forty-eight hours, or, in other words, before any germs could have had time to undergo their process of development, and bring about a fatal result.

But as he had said before, he had long been a believer in the prompt coagulation of the surfaces of wounds, and he could not too strongly express his obligations to Dr. Varick for the bold stand which he had taken in condemning the use of such agents as carbolic acid and the bichloride of mercury. He believed that more lives had been lost through the agency of carbolic acid than could possibly have been saved by it. The surgeon himself was sometimes the victim of the poison, and Dr. Donald Maclean, Professor of Surgery at Ann Arbor, had once suffered from bloody urine, and was really quite ill for several days after performing an operation in which the carbolic spray was used. All good surgeons, indeed, were antiseptists, but were not all Listerists. The first case of pyæmia resulting from profuse hemorrhage, which he had seen, was that of a robust young man, who had received a severe gunshot wound of the shoulder. He lost a very large quantity of blood, and, after a few days, chills set in, and he died from pyæmia resulting from thrombosis. In a large number of autopsies Dr. Janeway had found thrombi in the veins of the pelvic and other regions.

DR. C. S. WOOD, who was introduced by the Chair as having been one of the surgeons at Gettysburg, said that during the last few years the subject of antiseptics had undergone many changes, and that he believed that many of our best authorities at the present day were inclined to lay aside this bactero-mania which had been so prevalent. At the time of his experience in the army Listerism was not known, and while gangrene and sloughing were seen arising from special causes, he did not believe that these complications were due to the lack of antiseptic precautions. Among these special causes were all kinds of depressing influences. After the battle of Gettysburg more than eleven thousand wounded soldiers, both Union and Confederate, were under the care of our surgeons. The circumstances surrounding both classes were precisely alike, the surgeons making no difference whatever in the degree of care with which they attended to their injuries, yet on account of the feeling of elation after victory on the one side and of depression resulting from defeat on the other, a much larger proportion of Union soldiers recovered than of the Confederates. Again, at Fair Oaks, the next day after wounds had been received or

amputations performed, the seat of injury or stump was found to be covered with maggots of enormous size, and the terror which the men felt at the idea of having living animals thus crawling in and out of them had such a bad effect that the proportion of fatal cases was unusually large. When it had been discovered that the use of turpentine afforded an efficient means of getting rid of the maggots, the results were much more favorable; and it was also found that in the cases in which turpentine was employed, gangrene and sloughing were exceedingly rare. The effect of the weather on patients suffering from wounds was also well shown during the war. After all great battles a storm was sure to follow, to which the wounded were usually exposed with very little protection, and it was found that if the storm continued but for one day, it was decidedly beneficial in its effect, cleanliness being, as he believed, the essence of antisepsis; but if it lasted for two or three days, the results were injurious, on account of the men having to remain wet for so long.

Dr. Detmold said that he could confirm what Dr. Wood had mentioned in regard to maggots from his experience in European hospitals. Patients were usually greatly disgusted with them; though it had been demonstrated that in reality they were utterly harmless, being simply the eggs of the fly unusually developed by heat and moisture. The moral effect of their presence, however, was exceedingly bad.

The President thought that the microscope would explain one of the questions raised, and also explain the wonderful success of Dr. Varick. It was found that the blood-corpuscles became swollen from endosmosis, and that their decomposition afterwards resulted. Water at ordinary temperatures did not possess the power of coagulating fibrin, but hot water had that power. By the agency of the latter a film was formed that coated the wound and prevented both the decomposition of blood-corpuscles and the entrance of any germs from the atmosphere, granting that these were sometimes the cause of sepsis. Dr. Varick's experience had been unusually great, as he had long been connected with two of the largest hospitals in the United States, in which an immense number of acute surgical cases was treated all the time.

Dr. Varick, in closing the discussion, remarked that he had little to say in addition to his previous statements. In the paper that he had read, the results which he had met with had been alluded to only in a general way. The statistics of his amputations were fully set forth in the other paper mentioned, which he read at the last meeting of the American Medical Association. They were all major operations, and mostly in cases of railroad injuries. He had also had some major amputations since that paper was prepared, and he would now refer for a moment to these, in connection with the others. From the middle of August, 1879, up to the date of the paper, he had had at St. Francis Hospital, Jersey City, 21 such operations, and since then 1 primary amputation of the arm; making 22 in all, all of which were successful. At the Jersey City Hospital, during the period named, he had had 7 operations, and since then 4; making 11 in all, of which 1 case proved fatal. This amputation was of the thigh, and the patient, who was a broken-down tramp, died in the night from secondary hemorrhage. In private practice, he had had up to the date of the paper 3 cases, and since then 1. Of these 4, 1 died; but the stump was doing perfectly well, and the real cause of death was valvular disease of the heart. There was thus a total of 37 cases, with 2 deaths; which, he thought, was a pretty good showing for the method of treatment adopted. His success depended also on two other additional points, viz.: making the amputation through sound tissue, and keeping the stump clean.

That the hot water treatment did exert a protective power against hospitalism, he had met with several excellent illustrations in his experience. On one occasion, at the Jersey City Hospital, when the house was greatly crowded, and when there were several cases of puerperal fever in the obstetric wards and nine or ten cases of erysipelas in the male wards, two cases of railroad injury were brought in which involved amputation of the thigh. Yet both these patients made good recoveries, notwithstanding the exceedingly unfavorable influences to which they were subjected.

Referring to Listerism, he said that it had been claimed that it was a system of cleanliness; but he denied this. While he had seen enthusiastic disciples of Lister clean the limb of a child four years of age, so that no precaution might be omitted, he had also seen the most approved antiseptic dressing removed from a wound covered with the most fetid pus that he had ever seen in his life.

NEW YORK SURGICAL SOCIETY.

Stated Meeting, February 10, 1885.

The President, Alfred C. Post, M.D., LL.D., in the Chair.

REFRACTURE OF THE FEMUR.

Dr. Post presented a patient, a man 22 years of age, who came under his care between two and three months ago. At that time it was five months since he received a fracture of the right thigh at the junction of the second with the upper fourth, having been struck by the paddle-wheel of a steamer, and for which he was under treatment in a Staten Island hospital for several weeks. Dr. Post found great bowing of the thighs, with the convexity outward, and with a shortening of two and a quarter inches. He sent the patient to the Presbyterian Hospital, where he refractured the bone by means of Rizzoli's osteoclast, loaned to him by Dr. Sands. It was only with a great deal of force that he succeeded in refracturing the femur. He then treated the case with extension and weight and pulley, the weight being twenty-five pounds. It was continued with side splints during a period of six or seven weeks. The patient remained in bed two or three weeks longer, when he was allowed to get up, and there is now shortening not exceeding half an inch. There is a little fulness in the region of the callus, but there is no apparent deformity, except slight anterior convexity. In refracturing, the bone gave way very gradually, the arch of the limb yielding slowly for some time before mobility was perceived. The patient now stands and walks firmly, and there is nothing in his appearance or movements to indicate that shortening exists.

In response to a question asked by Dr. Markoe, Dr. Post said that the inflammatory reaction following the

operation was no more than after the occurrence of ordinary fracture.

ADENO-CARCINOMA OF THE RECTUM.

DR. GERSTER presented a patient, a man 27 years of age, who, since he was eight years old, had suffered from prolapse of the anal mucous membrane at each stool. For the relief of this, he had used injections of cold water for a very long time, the introduction of the nozzle of the syringe being done by his right hand. During the last year and a half, he had noticed frequently more or less profuse hemorrhage with each passage of the bowel. In November last, the patient came under Dr. Gerster's care at Mount Sinai Hospital, where he diagnosticated a tumor on the left side in the posterior portion of the rectum, overlapping somewhat the mucous membrane, but still sessile and ulcerated in the centre. It bled on the slightest touch, and occupied about two-fifths of the circumference of the gut, extending upward so far that it was just possible to touch healthy mucous membrane with the tip of the index finger. It was freely movable. It was evidently a malignant growth, and an operation was performed for its removal by first making an incision from the anal margin to the coccyx and excising the tip of the coccyx. The sphincter being perfectly healthy, the mucous membrane covering it was dissected up, and then the lower margin of the dissected mucous membrane was included in a purse-string ligature, and the rectum thus occluded. Having in this manner provided against the accidental escape of the rectal contents during the operation, the ligature strings were used as a handle to pull down the gut, and exsection of the gut proper was begun and continued with careful precautions as regards the loss of blood, each mass of tissue being secured with a double ligature and division made between, so that there was not more than two ounces of blood lost. Five and a half inches of the gut were removed, including the diseased portion and fully one inch of the healthy mucous membrane beyond. The gut was then cut through and sewed to the edge of the incision in the integument with four stitches. Throughout the operation, the wound was irrigated frequently and thoroughly with a bichloride solution, 1 : 2500. Two drainage-tubes were introduced into the bottom of the wound, and the wound was then loosely filled with iodoform gauze. The whole was covered with sublimate gauze, and the outer dressing was removed as often as was necessary to secure cleanliness. The iodoform gauze was allowed to remain until it could be easily removed. There was no shock attending the operation. The temperature remained normal until the fifth day, when there was some intestinal disturbance due to constipation, showing that careful preparatory treatment did not suffice to clear out the bowels thoroughly. As soon as this was relieved by castor oil, the temperature fell to normal and the wound healed without interruption, and union was complete in about four weeks. Dr. Gerster said he proposed to perform a further operation with a view to changing the location of the anus, after which the patient would again be presented to the Society.

DR. POST asked if any of the members had seen malignant disease of the rectum in so young a patient.

DR. KEYES had had a case in a young woman upon whom he operated whose mother at the time of the operation was suffering from the same affection. The daughter was 22 years of age when she was operated upon.

DR. POST remarked that he had a brother who died of cancer of the rectum at the age of 29 years.

DR. GERSTER then read a paper entitled

THE SURGICAL DISSEMINATION OF CANCER.

(See page 230.)

DR. POST asked if, in the application of the Esmarch bandage upon the distal side of a malignant growth in an extremity, the pressure would not have a tendency to propel the cancerous corpuscles toward the trunk.

DR. GERSTER replied undoubtedly, and said that he spoke only of constriction of the limbs.

DR. SANDS asked Dr. Gerster whether, in the experiments he had made of injecting tumors prior to their removal with some coloring substance which was capable of being transmitted along the lymphatic vessels, he had obtained any results confirmatory of the theory he had advanced in his paper.

DR. GERSTER replied that he had obtained some results which, on superficial examination, might be declared to confirm his assumption; but from further and more careful study of the results of other experiments, the value of the former results was placed very much in doubt. In the first case, he used an emulsion of India ink, glycerine, and corrosive sublimate, 1 : 1000, which he injected into the tumor immediately preceding the operation. On examining the specimen, it became doubtful whether the injection had propelled the India-ink into the lymphatics, or whether this was done by manipulations incident to the operation. Another thing which raised doubt with reference to the value of the first experiment was the fact that corrosive sublimate arrests protoplasmic action. Dr. Gerster's object was to introduce this colored material so that the embryonic cancer cells, which have an amœboid movement, might absorb or take into them particles of India-ink, and then be carried onward into the tissues. If he had found such a cell far away from the place of injection, it would have been almost conclusive proof. Nothing of this kind, however, was found, because the corrosive sublimate paralyzed the action of the cells. Therefore, in the last two cases, he had used a warm solution of salt, 6 : 1000; and, as the specimens were still hardening, he was unable to report concerning the results.

The object of the paper was to direct attention to the clinical features of the subject, namely, that after operations where insufficient tissue was removed, relapses will be established, and the disease will reappear within four weeks after the operation. It would be most interesting to hear of the clinical experience of the surgeons present concerning the disproportionately rapid reappearance of malignant disease, as it had been mentioned, especially by the older writers. It is known that formerly operation was discouraged, because it was believed to induce more rapid recurrence and extension of the disease.

DR. BRIDDON had in mind three or four cases of benign tumors, one in particular, situated in the neck, and operated upon by the late Dr. Buck, and the operation was followed by a disseminated carcinosis of very rapid development. Another case occurred to himself,

in which a granular ulceration, probably epithelioma, of the index-finger was operated upon by amputation, and general carcinosis occurred within six weeks, involving the glandular system, and also the abdominal viscera.

His experience with regard to cancer had been that in those cases in which there was infiltration of the tissue immediately surrounding the tumor, or there were nodules of cancer in the vicinity of the tumor, rapid recurrence of the disease had followed the operation. He recalled the fact that several years ago, Mr. Arnot, of London, introduced the treatment of malignant growths by compression, and his recollection was that some good was accomplished by the method. At all events, he scarcely thought it increased the rapidity of the growth.

Dr. Post referred to the fact that Dr. Batchelder, of this city, introduced the method of treatment by the use of compressed sponges, and in some cases, at least, with apparent good results.

Dr. Sands said that it had been his belief for a long time that in cases of malignant disease, especially of the breast, harm was often done by stimulating applications employed with the object of dispersing the tumor. He had always feared that such applications might prove injurious by exciting hyperæmia of the affected parts and thereby causing a more rapid increase of the swelling. It had not been his experience that operations performed for the relief of cancer had been followed by rapid recurrence, unless there was reason to suppose that the morbid growth had not been thoroughly removed. It seemed to him rather that the chance of exemption from recurrence was in a direct ratio to the completeness with which the work of extirpation could be accomplished. That seemed to be the only explanation of some cases in which what is termed permanent cure had been the result of the operation. He had listened with great interest to the remarks made by Dr. Gerster, who had raised an important question, which, perhaps, could be solved more easily by experiment than by clinical observation. As to the actual risk incurred at the time of operation, it would be hard to decide. He did not wish to disparage a theory which was both rational and plausible, but he thought it might be doubted whether, during an operation performed for the removal of a malignant tumor, the compression exerted would always exceed that to which it might have been subjected at various times prior to the operation. He could also recall instances in which the removal of the tumor had been effected only with very great difficulty, and with the exercise of considerable force, yet in which the patients had afterwards remained exempt from recurrence for a long period. He had presented to the Society within the past year a man about thirty years of age, upon whom he had operated fourteen years previously for fibro-sarcoma of the parotid, necessitating the removal of the entire gland, which was accomplished with great difficulty. Nevertheless the patient remained free from recurrence for more than thirteen years, when the disease reappeared in the cervical lymphatic glands.

Dr. Post thought that incomplete removal of cancerous growths favored recurrence of the disease. Recently he had read an account of removal of a naso-pharyngeal polypus piecemeal—that is, portions at different sittings—until finally the entire growth was removed; and the writer had stated that, during all this time, there was progressive improvement in the symptoms—a statement which struck Dr. Post as being contrary to the general experience of surgeons in dealing with malignant disease.

Dr. Sands remarked that the settlement of the point in question by clinical observation would be rendered difficult by the acknowledged diversity shown by different malignant growths regarding their tendency to dissemination.

Dr. Gerster said he fully admitted the fact that incomplete operations favored relapses. At the same time there were cases on record in which incomplete operations were said to have been followed by cure, although he had doubted such cases very much. He would like to ask why it was that this recurrent new growth changed its type? Why does the recurrent tumor behave entirely differently from the tumor first removed? It was a common experience, even in his short surgical experience, that a tumor which had been growing slowly, after it had been operated upon incompletely, grew much more rapidly than it had ever done. Of course, what he had said was only a suggestion of the necessity of continued investigation, caused by the desire of drawing attention to a fact hitherto little considered in our efforts to combat such an intractable disease as cancer.

Dr. Sands referred to one well-known circumstance which strongly favored the view taken by the writer of the paper—that is, the usually rapid extension of cancer of the tongue, which had been explained by the great mobility of the organ and its constant movements.

Dr. Markoe said that, on the other hand, it is to be observed that one of the most rapidly recurrent forms of malignant disease is that which occurs in the testicle, recurring generally within a very short period of time, and yet there is no operation for extirpation in which the tumor is less manipulated, and in which there is less displacement of cancer cells or juices than in extirpation of this organ.

Dr. Sands remarked that in such a case it would be difficult to decide whether dissemination had not already taken place at the time of the extirpation, because the parts in which secondary deposits occurred were so deeply situated along the posterior abdominal wall that until they had attained a considerable size they would not be recognizable. He had supposed that this was the reason why the removal of the testicle for malignant disease was so rarely followed by a permanent cure. Occasionally, however, sarcoma of the testicle was followed by exemption from recurrence. He had had one such case in which the disease had not returned thirteen years after operation.

Dr. Post said there was one practice not uncommon, that of puncturing a tumor in cases of doubtful diagnosis as a means of ascertaining its character. It appeared to him that puncturing, if the disease were malignant, had a tendency to increase the malignant growth. He referred to a case in point during one of his terms of attendance at the New York Hospital, that of a tumor in the region of the scapula which had developed quite rapidly, and there was some question as to whether it was malignant or inflammatory. Dr. Post had reached the conclusion that it was malignant.

Dr. Mott thought it was inflammatory, and suggested that it be punctured for the purpose of ascertaining whether or not it contained pus. The puncture was made, and the operation was followed by great aggravation of the symptoms, and the patient died from the disease. From the time the puncture was made the disease progressed more rapidly than it had done at any time previously. He thought, therefore, if puncture was made it should be in cases in which extirpation could be immediately resorted to, if the diagnosis of malignant disease was confirmed.

DR. KEYES had had a case quite recently in which the patient also had been seen by Dr. Sands and by Dr. Markoe. It was that of a young man who was born with a mole on his back between the shoulders, which gave him no trouble whatever until he had reached the age of twenty-three or twenty-four years, when another little brown spot appeared within an inch of the original mole, and shortly after became excoriated, began to ooze a peculiar fluid, and looked angry. When Dr. Sands saw the patient, he advised removal of both dark spots, one of which had never ulcerated. The father of the patient had a mole in the same location, but it had never given him any trouble. There was no thickening about the brown spot, so that there was no considerable tumor. These tumors were removed in a neighboring city by the patient's surgeon, and within a reasonable number of months afterwards there appeared upon the back over the scapula upon the same side a lump, as large as a pigeon's egg, which grew rapidly, together with a tumor in the axilla of the size of a goose egg. These lumps were manipulated a good deal in the patient's native town, after which he came to New York where they were again subjected to a great deal of manipulation for purposes of diagnosis. Dr. Keyes supposed the tumor to be a recurrence of the original disease, and advised immediate removal. Dr. Janeway also saw the patient, as did also Dr. Markoe; both confirmed the diagnosis. The tumors were thoroughly removed at the patient's home. Dr. Janeway made the microscopical examination and pronounced both lumps to be melano-sarcoma. There were no other tumors about the patient's body; he recovered from the operation rapidly, and when he visited Dr. Keyes, in November last, he was apparently perfectly well. He promised that on the least appearance of any tumor at any part of the body he would report himself, and, inasmuch, as he had not returned nor reported, Dr. Keyes took it for granted that the disease had not recurred.

As to sarcoma of the testicle, Dr. Keyes had removed a number of them, mostly in hospital, and his experience had been that recurrence had taken place generally in the retro-peritoneal glands. In one case, however, that of a sea captain, there had not been any recurrence after a number of years.

Dr. Keyes further referred to another case in which he performed a double operation. The disease was situated in the parotid gland. A small nodule, which had been under observation for two or three years, was removed from the substance of the parotid. A salivary fistula followed, and a great deal of local disturbance ensued, but from all this the patient recovered. On examination microscopically, the growth was found to contain mucoid tissue, round-celled sarcomatous tissue, and certain alveoli packed with cells, which led to the opinion that the growth was undergoing cancerous degeneration, being what is called a composite tumor of the parotid. The tumor was apparently enclosed in an outside shell, with budding portions, which were softer than the rest of the mass. There was no recurrence after removal for seven years, and then in the line of the old trouble a new nodule developed, which, within one year or eighteen months, was larger than the original growth—perhaps as large as the first phalanx of the thumb. Dr. Keyes removed the second nodule in the spring of 1883. It was an exceedingly disagreeable operation, because the patient became partially asphyxiated by mucus in the larynx, and it was necessary to perform tracheotomy in great haste to save life, and there was considerable hemorrhage, etc. He removed the tumor completely, and with it a small portion of the seventh nerve. The patient recovered promptly and completely; did not have a recurrence of the growth until about one month ago, when a small nodule developed under the angle of the jaw, about half an inch from the old cicatrix, rather painful and hard, not connected with the immediate site of the old operation. The second tumor was examined by Dr. Welsh, who decided that it contained mucoid tissue, sarcomatous tissue with alveoli packed with cells, and branching into the mucoid tissue. Probably the tumor now growing would prove to be a growth analogous to the others which had been removed from the same region.

DR. LANGE recalled one case in which he thought rapid spread of malignant disease was dependent upon surgical interference. The case occurred in the person of a young woman who was operated upon by Prof. Esmarch while Dr. Lange was his assistant, for removal of sarcoma of one of the ovaries. The tumor was so large that it was difficult to bring it outside of the abdomen, and it was necessary to crush it in order to remove it. In this attempt a certain amount of its contents got into the peritoneal cavity. Otherwise the operation was readily performed. The tumor was pedunculated and removed within entirely healthy parts, and there was also no other part of the sexual organs involved. The patient did well for the first two weeks, when nodules could be felt in different parts of the abdominal wall, and, as he recollected, it was not more than two months after the operation when the patient died from diffuse sarcoma of the peritoneum and sarcomatous degeneration of the entire diaphragm, and also of the diaphragmatic pleura. Dr. Lange had reported the case in 1877 as one which illustrated the spread of malignant disease from the original point, involving the peritoneum and other tissues.

CORRESPONDENCE.

THE SPRAY IN OVARIOTOMY.

To the Editor of THE MEDICAL NEWS.

SIR: The following is an extract from a recent work by Dr. Emmet (Emmet's *Principles and Practice of Gynæcology*, p. 715): "In this country, I do not know of any prominent operator who now employs the carbolic acid spray." This statement implies that the writer is not persuaded of the value of spray in ovariotomy. My own experience has led me to an opposite

opinion. Indeed, I should not like to do a laparotomy for any purpose without antiseptic spray. I have been led to this conclusion by the results of 183 cases of removal of cystic ovaries, of which I have lost only 21; but more especially by the result of the last 100 of these cases, only 10 of which were fatal, while 38 were consecutively successful. I feel that to omit the antiseptic spray would be to deprive the patient of one of the ready and efficient elements of success. As I can hardly hope for much better results than those I have cited, and being quite content to let well alone, I shall hesitate before disturbing my present plan of operation by giving up a detail to which I attach much importance.

Very respectfully, your obedient servant,

JOHN HOMANS, M.D.

161 BEACON STREET, BOSTON, Feb. 17, 1885.

LAPAROTOMY FOR GUNSHOT WOUND OF THE SMALL INTESTINE.

To the Editor of THE MEDICAL NEWS.

SIR: In the editorial on "Laparotomy for Gunshot Wound of the Small Intestine," contained in the number for February 21st, you express an opinion in favor of uniting the ends of resected intestine and adverse to the formation of an artificial anus. As the opinion is positive and without qualification, allow me to call attention to the fact that there is not an unanimity upon the point. For instance, in a note to the report of a case of excision of the cæcum for epithelioma, by Mr. Whitehead, surgeon to the Manchester Infirmary, published in the *British Medical Journal*, of January 24th, it is stated that Ruchel has collected 121 cases of resection of the intestine "the conclusion being that the two ends of the bowel should not be united at the time of resection, but that an artificial anus should be established." My impression is that this is the teaching of Mr. Bryant in his excellent series of papers on intestinal obstruction, published in the same journal towards the close of last year, but I have not access to them at this moment. In an operation of this magnitude, now rapidly coming before the profession as a duty, it is desirable that there should be clear understanding of its steps in detail. May I not request you, therefore, to present, at an early date, the evidence and the teaching upon this most important point in progressive surgery?

Yours truly,

J. C. R.

DAYTON, OHIO.

OBITUARY.

LOUIS ELSBERG, M.D.

DR. LOUIS ELSBERG, of New York City, Professor of Laryngology at Dartmouth Medical College, Professor of Laryngology and Rhinology at the New York Polyclinic, and Physician to the Throat Wards in Charity Hospital, New York, died at his residence in New York on the 19th of this month, by pulmonary œdema after a ten days' illness, following a cold contracted in returning from a lecture he had just given at the Polyclinic. For two years he had been suffering with Bright's disease, and although of late his health had become sufficiently reëstablished to relieve his professional advisers from all concern as to any immediate danger his condition was such that he was unable to rally. He was in the 48th year of his life, having been born at Iserlohn, Prussia, April 7, 1837. He leaves a widow and a daughter.

Dr. Elsberg had been prominently before the profession for more than a quarter of a century as having introduced laryngoscopy into America, and as having developed the art successfully as a diagnostician and as a practitioner. His reputation was world-wide and was early established, chiefly by an "Essay on Morbid Growths of the Larynx," which won the prize of the American Medical Association in 1864.

His family came to reside in Philadelphia about 1849, and young Elsberg entered the public schools, graduating in 1854 from the Central High School with the highest honor of his class, and delivering the honorary address at the Commencement. Entering Jefferson Medical College a year later, he graduated from that institution in 1857. He then received the appointment of Resident Physician in what is now the Mount Sinai Hospital of New York, and at the expiration of his term of service, made a visit to the medical centres of Europe. He reached Germany at the time that Czermak was bringing laryngoscopy into notice, and was a member of the first class taught by him, his classmates being Prof. Stœrck, of Vienna, Prof. Lewin, of Berlin, and Dr. Semeleder, subsequently Surgeon to the Emperor Maximilian, whom he accompanied to Mexico, where he remained. Semeleder published the first volume on *Rhinoscopy*, but became interested in other branches of medicine, and is comparatively unknown as a laryngologist; but the three others remained continuously devoted to laryngology, each one of them acquiring professional renown in connection therewith.

In 1861, Dr. Elsberg was made Professor of Laryngology and Throat Diseases in the Medical Department of the University of New York, and established there the first throat clinic instituted anywhere. His connection with the University was severed in 1878. He founded the New York Laryngological Society, and presided over it for many consecutive years. He was the first President of the American Laryngological Association, and was reëlected at the close of his term. He founded the *Archives of Laryngology* in 1880.

Dr. Elsberg was an enthusiast in his profession, and taught his specialty by precept, by example, and by many valuable contributions to current medical literature. While this brought him well-earned fame, his large practice seems to have afforded him no leisure for writing a systematic treatise on his specialty, such as had been long expected from him and as would have had an extensive circulation;—a loss to American medical literature now irreparable. His numerous papers scattered in medical journals and Society Transactions evince independent thought, original research, and comprehensiveness of design. While his reputation rests chiefly on his laryngological work, it is enhanced by original investigations in histology and in acoustics, which are less known to medical men generally than to those interested in these branches.

Dr. Elsberg was a close student, an omnivorous reader, and an admirer of systematic classifications. He was an affectionate relative, a staunch friend, and

a sympathetic physician. His death is a serious loss to American medicine.

At a meeting of the members of the medical profession in attendance at the New York Polyclinic, held on February 21, 1885, the following resolutions were unanimously adopted:

Whereas, In the inscrutable Providence of God, Professor Louis Elsberg has been removed from this life.

Resolved, That in his death science has lost an earnest and indefatigable student, the medical profession an honorable member, and society one with broad and humanitarian sympathies.

Resolved, That we offer to his family assurances of sympathy, and as a testimony of our regard for his character and attainments and a sense of our personal loss in his death, that we, the members of the class of the New York Polyclinic, attend the funeral in a body.

Resolved, That copies of these resolutions be sent to his family, to the Faculty of the Polyclinic, and to the medical press.

NEWS ITEMS.

Meeting of the Sanitary Council of the Mississippi Valley.—The Executive Committee of the Sanitary Council of the Mississippi Valley has fixed the date of the seventh annual meeting of the Council for Tuesday, March 10th prox., and in the city of New Orleans. This is about a month earlier than its meetings are usually held, and the committee assigns as a reason for the change the probability of Asiatic cholera reappearing in the country, and the uncertainty concerning National legislation on public health matters. Invitations are extended to all State and local health authorities in the Valley, and to representatives of commercial and transportation interests.

Election of Foreign Members of the Société de Chirurgie.—At a meeting of the Société de Chirurgie de Paris, held Jan. 21, 1885, MM. Pellizzari, of Florence, and Sklifossowski, of Moscow, were elected foreign associates; Drs. Lewis A. Stimson, of New York, Saltzmann, of Helsingfors, Plum and Studsgaard, of Copenhagen, foreign correspondents.

The Société Médico-pratique de Paris has elected Prof. Roberts Bartholow, M.D., of Philadelphia, a corresponding member.

Harvey's Manuscript Lectures.—The MS. of the original lectures at the Royal College of Physicians by William Harvey, including his earliest observations on the heart and circulation, and delivered by him in and after 1616, were rediscovered in the British Museum in 1877. Dr. E. H. Sieveking gave a description of the little book, and exhibited an autotype copy of one page in his Harveian oration at the College in 1877. He then suggested that it would redound to the honor of the present generation, and be an advantage to the history of medicine, if the whole of the lectures could be published in autotype, accompanied by an intelligible transcript. The handwriting is so crabbed, and there are so many abbreviations, that no one but an expert could succeed in understanding them. Without the valuable aid of Mr. Bond, now the Chief of the British Museum, Dr. Sieveking would have failed in his attempts to understand much, if anything, of the lectures. By dint of severe labor, Mr. Bond succeeded in interpreting one of the lectures, and has now been good enough to make Dr. Sieveking acquainted with a gentleman who will undertake to transcribe the whole of the lectures. Dr. Sieveking's inquiries lead him to believe that no publisher could be found to undertake the risk of publication in the form proposed, unless guaranteed a certain amount of professional support. On the other hand, he calculates that if from two to three hundred gentlemen would engage each to take a copy at a price not exceeding two guineas, the work might be safely proceeded with. Autotyping is a much more expensive process than ordinary printing, and the honorarium to the transcriber would necessarily add considerably to the cost.

Dr. Sieveking, in a letter to the *Lancet*, asks his professional brethren whether they will aid in this labor of love of, and admiration for, our great prototype of the scientific physician? He states that the Presidents of the Royal Colleges of Physicians and Surgeons warmly support the undertaking.

Any communications on the subject may be addressed to Edward H. Sieveking, M.D., 17 Manchester Square, W., or to Messrs. Churchill, 11 New Burlington Street, W., London.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM FEBRUARY 17 TO FEBRUARY 24, 1885.

Bentley, Edwin, *Major and Surgeon.*—Relieved from further duty at Fort Clark, Texas, and assigned to duty as Post Surgeon, Fort Brown, Texas.—*S. O. 17, Department of Texas*, Feb. 16, 1885.

Patyki, Julius H., *Captain and Assistant Surgeon.*—Leave of absence further extended seven months, on surgeon's certificate of disability.—*S. O. 40, A. G. O.*, Feb. 17, 1885.

Taylor, M. E., *Captain and Assistant Surgeon.*—Assigned to duty at Fort Stanton, New Mexico, as Post Surgeon.—*S. O. 29, Department of the Missouri*, Feb. 21, 1885.

Perley, H. O., *Captain and Assistant Surgeon.*—Granted leave of absence for one month, to take effect about March 5, 1885.—*S. O. 16, Department of Dakota*, Feb. 10, 1885.

Robinson, S. Q., *Captain and Assistant Surgeon.*—Relieved from duty at Fort Spokane, Wyoming Territory, and ordered for duty as Post Surgeon, Fort Klamath, Oregon.—*S. O. 23, Department of Colorado*, Feb. 9, 1885.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE WEEK ENDING FEBRUARY 21, 1885.

Battle, K. P., *Assistant Surgeon.*—To proceed to Pittsburg, Pa., for temporary duty, Feb. 19, 1885.

RESIGNATION.

Heath, W. H., *Passed Assistant Surgeon.*—Resignation accepted, as tendered, by the Secretary of the Treasury, Feb. 14, 1885.

PROMOTION.

Kalloch, P. C., *Assistant Surgeon.*—Promoted and appointed Passed Assistant Surgeon by the Secretary of the Treasury, from March 1, 1885, Feb. 19, 1885.

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. XLVI. SATURDAY, MARCH 7, 1885. No. 10.

ORIGINAL LECTURES.

ON TAPEWORM.

A Clinical Lecture delivered at the Philadelphia Hospital.

BY JAMES TYSON, M.D.,

PHYSICIAN TO THE HOSPITAL, AND PROFESSOR OF GENERAL PATHOLOGY AND MORBID ANATOMY IN THE UNIVERSITY OF PENNSYLVANIA.

GENTLEMEN: I desire, to-day, to call your attention to a class of cases, the practical importance of which is certainly equal to that of any which you will meet in your daily practice.

The patient, 55 years of age, has always enjoyed excellent health. About five years ago, he first noticed segments of tapeworm in his stools. These appeared to be about one-half of an inch long and one-eighth of an inch in width. During the next two years, segments of the worm continued to be passed at short intervals. Three years ago, he was given the oil of male fern, which resulted in the expulsion, according to his statement, of forty-six feet of the worm, but the head was not expelled. After this, four months elapsed before the segments began to reappear. Since then he has continued to pass them from time to time, and has made various ineffectual efforts to get rid of his guest.

The diagnosis is, of course, made in the reading of the history, but there is much more of interest in connection with this subject of tapeworm to which I wish to call your attention. In the first place, man is subject to more than one variety—probably at least four—and it is a matter of no small importance that the physician should be able to recognize the particular species of tapeworm which infests his patient, because there is considerable difference in the ease with which some of the varieties can be removed.

I have in these bottles two specimens of tapeworm, one of which was passed by our patient, and the second by another man in the hospital. It is plain that they present differences. In the one, the links are broader and shorter, thicker and less transparent. That made up of the broad and short links is a specimen of the unarmed tapeworm, or tænia mediocanellata or tænia saginata, and is the one passed by this patient, while the other is an illustration of the tænia solium, or armed tapeworm.

The tænia mediocanellata is known as the beef tapeworm, because its embryos are found as a rule in cattle, producing the so-called "measled" veal and beef. They have also been found in the flesh of the giraffe. The tænia solium is known as the pork tapeworm, because met in the larval state in the flesh of swine, producing the "measled" pork. The worm passed by this patient, I have already said, is a specimen of the beef tapeworm, or tænia mediocanellata. It is the most common form of tapeworm occurring among us, and I believe also on the Continent of Europe. I am informed by Prof. Leidy that all the specimens sent to him for examination during the past fifteen years have been tænia mediocanellata.

The tænia mediocanellata, or beef tapeworm, is characterized by the presence of a quadrate head .1 inch broad, provided with four suckers, placed one towards each angle of the head, and a small central rudimentary sucker, around which, also, according to Leuckhart, there are small rudimentary hooks. The tænia solium has a smaller head, the size of a small pin, provided, in addition to the four suckers, with a proboscis or snout called a rostellum, which is in the front and centre of the head. The rostellum is surrounded by a double circlet of hooklets, those in the inner row being the longer. There are from twelve to fourteen in each row, making in all twenty-four or twenty-eight. The heads of both worms are at times more or less pigmented. There is also a difference in the segments. There are many details to which I shall not allude, but speaking generally, it may be said that the segments of the mediocanellata are broader and shorter, thicker and less transparent than those of the tænia solium. The ripe segments of the tænia saginata average, when released, from .63 to .78 inch long and from .2 to .27 inch broad. The ripe segments of the tænia solium average from .35 to .39 inch long and .15 to .23 inch broad. Tapeworms are hermaphroditic, both sets of reproductive organs being contained in one segment. The peculiarities of these organs will be further considered when I come to speak of diagnosis. As to the length of the entire worm, the tænia mediocanellata is put down at from fifteen to twenty-three feet, but I have known more than forty feet passed. The tænia solium is usually much shorter —from seven to ten feet, or even longer.

How do these tapeworms obtain access to the intestine of man? As already stated, the larva or cysticercus of the mediocanellata is found in "measly" beef. The eggs containing the larval or embryo worm are in some way ingested by cattle. The envelope with which the embryo is surrounded is dissolved, and it works its way, by the aid of three pairs of hooks, with which it is provided, through the intestinal walls and invades the muscular tissue. It is a singular fact, however, that the "measles" of tænia saginata very rarely come under observation. When found, the cysticercus of this worm is an oval cyst scarcely as large as a pea, and is probably often overlooked. Notwithstanding its apparent rarity, it is very often responsible for tapeworm in man.

In the case of the tænia solium, the links of the worm thrown off by man are eaten by the pig, and during digestion the shell of the egg is dissolved, and the embryo liberated. The embryo of the tænia solium is not provided with the double row of hooklets, but, like that of the tænia saginata, with six hooklets arranged in pairs, one central and two lateral. The central pairs are simply stilettos for boring; the lateral for tearing and propulsion. By these means, it attaches

itself to the intestinal wall, and bores its way through into the intermuscular tissue of the animal. The embryo becomes encysted, and thus the cysticercus cellulosæ telæ is formed, and the pork becomes "measled." The "measle" of pork is larger than that of beef. In the former, it sometimes reaches a length of nine-tenths of an inch, while in the latter, it is, as a rule, not more than one-fourth of an inch in length.

The laws demanding the inspection of pork and beef are causing the tapeworm to become less common, but it is still quite so. At the present day we are much less in the habit of eating uncooked pork than rarely done and raw beef. This is also the case in England. It is on this account that the pork tapeworm is less common in these countries than the beef tapeworm. In the middle of Germany, it is less unusual to eat uncooked pork, and although the laws of inspection there are very stringent, the tænia solium is the more common variety of tapeworm. But in Holstein, Heller, the author of the article on tapeworm in Ziemssen's *Cyclopædia of Medicine*, has met the tænia saginata four times as often as the tænia solium.

The first of the remaining varieties of tapeworm to which I invite your attention is the bothriocephalus latus. It is distinguished by the greater width of its segments and their shortness in an antero-posterior direction. You will remember that in the tænia mediocanellata the proglottides, as they are also called, are broader and shorter than they are in the tænia solium. In the bothriocephalus latus, they are still broader and shorter. These statements refer to the average, for the links taken from different parts of the same worm vary much in their dimensions. Still more different is the head of the bothriocephalus latus from that of either of the two which I have described. It has neither rostellum nor hooklets, is club-shaped, .1 inch long and .04 inch wide, and is characterized by two lateral depressions. The head is, therefore, less formidable than that of either of the two other worms. This worm is not often met with in this country. It is more common in Switzerland and Russia, but is also found in Ireland, Sweden, and Germany, and is called the Irish tapeworm as well as the Russian and Swiss tapeworm. It is believed that the cysticercus of this variety of tapeworm is found in certain fish, of the salmon and trout family, and that man acquires the worm by eating these fish uncooked. The length of the bothriocephalus is put by Heller at from fifteen to twenty-five feet, but if it be the longest of the tapeworms, as is also generally stated, it must at times far exceed this.

There is still another form of tapeworm which there is reason to believe is more common than ordinarily supposed. This is the tænia flavopunctata. It is a little tapeworm not exceeding twelve or fifteen inches in length. In the July number of the *American Journal of the Medical Sciences*, Dr. Leidy describes the segments of one of these worms from specimens sent to him for examination. They were passed by a child three years of age, after the administration of santonin. In fact, all the specimens of this worm heretofore described seemed to have come from children, fifteen months to three years of age. It is characterized by its shortness. The joints are proportionately short in all cases, the breadth exceeding the length several times. They are transversely linear, slightly wider back of the middle, with the posterior angles rounded, and the posterior margin slightly but irregularly crenate. The anterior immature joints exhibit no distinct traces of sexual organs, while succeeding ones have a more coarsely granular appearance due to the presence of immature eggs. The pair of longitudinal vessels common to all tapeworms are conspicuously visible in the segments. At the posterior part of the body, the joints in a ripe condition are of a pale brown color due to the contained eggs. The ripe joints are interrupted here and there by a variable number, one or more, of sterile joints. The ripe joints are longer, broader, and thicker. The eggs distend the joints, and are diffused throughout a simple cavity bounded by thin parietes, and are not inclosed in ramified or dendritic uterine pouches, as is the case with most tapeworms. In Dr. Leidy's specimens, the mass of eggs so concealed everything in these joints that the generative apparatus could not be determined. But in the joints devoid of eggs, there was to be seen a narrow clavate organ which Dr. Leidy suspected to be the seminal receptacle, together with four or five oval bodies, probably testiculæ. In these joints only, as a rule, could the genital aperture be recognized at the lateral margin of the joints, immediately behind the middle.

The joints of this tapeworm range in length from $\frac{1}{125}$ inch in the neck to $\frac{1}{50}$ inch, an inch from the posterior extremity; and in width from $\frac{1}{40}$ inch in the neck to $\frac{1}{10}$ inch, an inch from the posterior extremity. The mature eggs are raw sienna-colored, mostly spherical, and $\frac{1}{315}$ inch in diameter.

The specimens sent to Dr. Leidy were parts of three worms, so that it would seem more than a single worm may infest the host, which is the case with other cestoid worms.

One other instance, only, of this worm has been described, by Dr. Weinland, of Cambridge, Mass., and named by him tænia flavopunctata, in consequence of yellow spots lying near the middle line in each successive joint, and representing, according to Dr. Weinland, the testicle. This spot had disappeared in Dr. Leidy's specimen, as it had also in Dr. Weinland's when it reached Prof. Leuckhart some years afterwards. The enclosed embryos are oval and are provided with six hooks arranged in three pairs. The intermediate or larval condition of this worm is unknown. I have taken some pains to describe the tænia flavopunctata, because, as I have already said, it may be more common than is usually supposed, and it is desirable that we should all possess a greater familiarity than we have had, that we may recognize it when we meet it.

Symptoms.—Given a tapeworm in the human intestine, how is it to be recognized? It has occasionally happened that the parasite has been present without giving rise to any symptoms, having been accidentally discovered by the expulsion of segments; and this seems to have been the case with our own patient.

The symptoms occasioned by its presence may be put down in general terms as those of irritation. They may be either direct or reflex. Among the direct symptoms are vague abdominal pains, nausea, and meteorism. Nausea is very common, and both it and the pain are easily accounted for by the irritation of so large a mass of living matter in the intestine. The reflex phenomena include a great variety of nervous symptoms,

among which may be named headache, vertigo, dizziness, epileptiform convulsions, reflex paralysis, and even insanity. Among other symptoms are loss of appetite, together with faintness, and other disorders of digestion, derangement of vision and of hearing, such as noises in the head. Itching and dryness of the nose and anus, and vague pains throughout the body are sometimes noted. Sensations of weariness and vague discomfort may alone be present.

Notwithstanding the presence of these symptoms, we are often compelled, in the absence of positive demonstration—*i. e.*, the passage of pieces of the worm—to administer a purge, in the action of which segments will be passed, if a worm is present.

It is not only as tapeworm that the system is in danger from these parasites. Human flesh may also become "measled." Although the beef measle has thus far never been found in man, some sixty or seventy cases have been noted in which the pork measle or cysticercus cellulosæ is said to have caused death. As I have explained, the embryos already contained in the links of the worm are developed into cysticerci in a second host, as swine in the case of the tænia solium, and cattle in that of the tænia saginata. When cysticerci infest human beings, the embryos may have been introduced with food or drink; but more frequently the links are regurgitated[1] into the stomach, and there dissolved by the gastric juice. The embryos, thus released, migrate into the tissues and become there encysted. Among other situations in which cysticerci are found, the brain and cavity of the eyeball may be mentioned. In the former, a train of symptoms are developed which sometimes suggest a diagnosis. In other situations, they seldom give rise to any symptoms.

Another effect in the human being, of tapeworm, is the "hydatid cyst." This is the result of the ingestion of the embryo of a little tapeworm known as the tænia echinococcus or hydatid-forming tapeworm. This little tapeworm, which is not more than one-fourth of an inch in length, is very common in dogs. It is an interesting fact that in those countries where the intercourse between men and dogs is most intimate, hydatid cysts are most frequently met. Their most common seat is the liver. It is said that in Iceland, where there are many more dogs than people, some physicians have as many as a hundred cases of hydatid disease under their care at one time, and it has been estimated that the number of cases is not less than 10,000. It is in consequence of the intimate association of men with dogs that the larvæ of the tænia echinococcus enters the human alimentary canal. It may find entrance with food and drinking water, which may contain scores of these larvæ, and yet appear pure. Or the embryos may be inhaled with dust. From the stomach they may enter the intestine, and, boring through its walls, pass into the liver, developing there the hydatid cysts. I may at some future time have something to say about this disease, so common in Iceland, and comparatively frequent in England, but quite rare with us.

Diagnosis.—I have intimated that it is a matter of no small importance that we, as physicians, should be able to distinguish the different varieties of tapeworm. For, as has also been stated, the difficulties of treatment vary considerably with the different worms, the tænia saginata being much more easily dislodged than the tænia solium; and the bothriocephalus latus perhaps easiest of all. In the first place, the frequent spontaneous expulsion of segments of worm may be taken as presumptive evidence that they belong to the tænia saginata, as those of the tænia solium rarely drop off. Again, the segments of bothriocephalus latus, while occasionally expelled, are seldom expelled singly, being discharged in pairs or several joined.

The segments of the tænia saginata are stronger, thicker, and less transparent, and, when expelled spontaneously, contain very few eggs. The uterus, which contains the eggs, and which may generally be demonstrated by allowing a segment to dry on a piece of glass, or, better, slightly compressed between two glass slides, is composed of a central canal with lateral branches which are more distinct and less numerous in the tænia solium, from 9 to 12, than in the tænia saginata, where they number from 15 to 20. The genital pores are lateral in the case of the tænia solium and tænia saginata, but central in the bothriocephalus, which has also a brown rosette-shaped uterus very easily distinguished from that of the other two more common forms of tænia.

Prognosis.—This is favorable, as a rule, in all forms of tapeworm, but the tænia saginata and bothriocephalus latus are much more easily dislodged than the tænia solium, the head of which often eludes removal for a long time, the segments continuing to reproduce themselves until the head is dislodged. From eight to twelve weeks are usually necessary for the worm to redevelop itself to a size at which segments are again discharged.

Treatment.—There is, perhaps, no one condition which has brought more opprobrium upon the medical profession and more "grist to the mill" for quacks, than tapeworm, and to our humiliation it must be said that quacks do seem to have more success in getting rid of tapeworm than we do. There are, I think, two reasons why this is so. In the first place, it is certain that they do not use different remedies from those commonly in use by the profession, but they give larger doses. In the second place, they see a large number of cases and develop a sort of specialty, which, like all specialties, produces greater skill in treatment. When I say quacks, I mean more particularly advertisers and those who use secret remedies; for in their treatment of tapeworm, they undoubtedly use remedies which experience shows to have been useful.

In order that a tapeworm may be successfully treated, it is necessary that it shall have a certain size; so that, if a large part of the worm has been brought away by medicine, it is useless to give anything more until the remaining part increases sufficiently in size.

There are half a dozen remedies for tapeworm, and they are all good. I think that the two best are probably the ethereal extract of male fern and kooso. Some prefer the first of these, while others prefer the second. In my hands, kooso has been decidedly the most efficient—that is, having failed with everything else and having succeeded with kooso, it has naturally become the remedy with which I always begin the treatment. It is the dried flowers and immature fruit of the Brayera

[1] Portions of tapeworm thus regurgitated may even be passed by the mouth.

anthelmintica, a tree native to Abyssinia. It is given in the form of a powder, and the only objection to it is its bulkiness. The dose is laid down as a half to one ounce of the powder in half a pint of water. I prefer to give the larger dose, for it is harmless, except in pregnancy, and I am sure that failures are often due to the smallness of the dose administered. Kooso is said to have produced miscarriage; therefore, it should not be given to pregnant women.

Patients require some preparation before any remedy is employed. I always tell them to eat nothing from noon of one day until the next morning, when one ounce of kooso in half a pint of water is directed to be taken. If at the end of six hours no movement of the bowels has taken place, a promptly acting aperient, as a dose of oil, compound jalap powder, or elaterium, is taken, but generally kooso requires no purgative after it. This usually brings away the worm entire. Of course, you are never certain that you have the entire worm until you find the head. At the same time, it does not follow because the head cannot be found, that you have failed to remove it, for it is very small, and may have been lost in the discharges. As I have said, in the tænia solium the head is about the size of a small pin's head; in the mediocanellata, it is somewhat larger, and in the bothriocephalus latus it is still larger. If the head has not been removed, you may be certain that in a certain length of time the worm will grow out again. This varies from ten to sixteen weeks.

Instead of kooso, the resin which it contains, called *koosin*, may be given; but I have had no experience with it. The dose is 20 to 40 grains enclosed in a wafer.

The next remedy in efficiency is the ethereal extract of the rhizome of Aspidium filix mas, whose active principle—an oleo-resin—is extracted by ether. The preparation of the patient is about the same as for kooso. The dose is half a fluidrachm to a drachm. The larger dose should be given. It is a dark, thick liquid, bitter, slightly acrid, and nauseous. Instead of the ethereal extract of male fern, the oil may be given in a gelatine capsule, which is the best vehicle for these unpleasant oils. Six or eight hours later, a dose of purgative medicine should be administered. An important point to be borne in mind, is the varying quality of these drugs, and that they deteriorate with age.

The next remedy in order of efficiency is the bark o the root of the pomegranate. This has been given in the shape of a decoction, about two ounces to the pint, and the dose is a pint. Recently, there has been introduced an alkaloid obtained from pomegranate, named pelletierine, in honor of the chemist, Pelletier. This is sold in a single dose, the price of which is, I believe, three dollars. When first introduced, it was vaunted as a "sure cure;" but the experience of practitioners in this city has not been uniform, and success has been by no means invariable. Very recently, however, I have known a case to have been successfully treated with pelletierine after all else had failed, including large doses of turpentine, and including pelletierine itself. When successfully used, the dose of pelletierine was given after twenty-four hours' fasting and no preliminary purgation. In fifteen minutes afterwards, one drachm of compound jalap powder was taken. In an hour and fifteen minutes, the entire worm, including the head, was passed. When pelletierine was unsuccessfully used, it was preceded by a day and a half fasting, during which two doses of castor oil were taken.

Kamala, the hairs of the Rottlera tinctoria, is said to be very efficient in tapeworm, but I have had no experience with it. It is given in doses of from one to two drachms suspended in syrup, repeated in eight or ten hours if it do not purge. It is purgative, sometimes drastically so. It may also cause nausea and vomiting.

Another remedy, which is an excellent one in this affection, is oil of turpentine. At the same time, it is apt to produce such unpleasant symptoms that it would be the last which I should use. The dose is from an ounce to two ounces mixed with twice that amount of castor oil.

The last remedy which I shall mention is pumpkin-seed. This was used very commonly some twenty years ago. It was the remedy which I always used until frequent failures induced me to give it up. There are two ways in which it may be given. Two ounces of the seeds may be crushed in a mortar with water, then strained, and the emulsion taken fasting, the patient having dieted the previous day. A few hours later, a brisk purge should be taken. Or the seeds may be made into an electuary, which is almost as pleasant as sugar candy, and often is about as effectual.

I should place these different remedies in the order of their efficiency as follows: kooso, male fern, pomegranate and pelletierine, kamala, turpentine, and, lastly, pumpkin-seed. I am inclined, however, to give pelletierine an early trial, in consequence of its recent successful use in the manner referred to.

I have already stated that it is important to know the variety of worm present for the purposes of prognosis and treatment. The easiest of these worms to dislodge is the bothriocephalus latus, because it has neither the hooklets nor the rostellum of the other varieties. The next in ease of removal is the tænia mediocanellata, which, although it has the four suckers, lacks the hooklets which give the tænia solium its firm anchorage. Of all the forms of tapeworm, the most difficult to dislodge is, therefore, the tænia solium; for it not only has the four suckers, but also the double row of hooklets. I believe, however, that if a more active course of treatment than is usually recommended be pursued, our efforts will be more successful.

ORIGINAL ARTICLES.

CÆSAREAN OPERATION IN A DWARF.

BY ELY VAN DE WARKER, M.D.,
OF SYRACUSE, N.Y.

AT two o'clock on the morning of the 14th of January, I was called by Dr. Saxer, of this city, to meet several physicians who, for some hours, had been in attendance upon Mrs. Franklin Roberts, known as the "Midget," in labor. Dr. Saxer informed me that the physicians in charge were unanimous in the opinion that the Cæsarean section was unavoidable, and that they had selected me as the operator. After a brief conference with the doctor, I accepted the offer. I had my near neighbor, Dr. D. M. Totman, called up, and with my assistant,

Miss F. A. Adams, we were in a short time prepared for the operation. Fortunately, my sponges and ligatures were ready, as I had just cleaned up after an abdominal operation, so no time was lost upon my part.

I arrived at the house of the patient at 3 A.M., and found Drs. Glauner and Searl in attendance. I was shown the patient, a most wretched appearing little creature said to be 30 years old. She was in a state of great alarm, moaning incoherently, and from whom I could not get an intelligent reply. Her pulse was about 120, and of poor quality, while her attenuated limbs showed a very impaired nutrition. I examined her, and found a leg and foot protruding from the vulva, which had been brought down in a vain attempt to deliver by the breach. The pelvis was so completely occupied by the thigh that, aside from the great contraction of the pelvis, I could learn but little. The head of the child was in the left ilium, the breach in the right, which position deflected the left flank of the mother considerably beyond the crest of the ilium, giving the abdomen a very distorted appearance.

It would be impossible to conceive of worse surroundings for an operation of this character. Her quarters consisted of two small up-stair apartments in a tenement house, occupied as living and sleeping rooms by six people. It was one of the coldest nights of this month, with a northwest wind-storm driving against the windows. The rear room was selected for the operation, as it was without a carpet, and I doubt if it at any time reached a temperature of 70°. We worked a spray apparatus industriously in the room, but it was not directed upon the patient on account of the low temperature. Fifteen minims of "normal" extract of ergot were given hypodermically just before administering the ether. The character of the pulse improved under the anæsthetic. The abdominal incision followed the linea alba, and not the centre of the distorted abdomen, in order not to sever the fibres of the muscles. The abdominal incision was bloodless, and I noticed the absence of subcutaneous fat. The uterus was exposed in a state of firm contraction. The uterine incision was made about four inches to the right of the centre of the organ, and I found the placenta lying directly under. I separated it quickly, and removed it, and extracted a dead child by the breach. The delivered leg was so firmly fixed in the contracted pelvis that Dr. Totman was obliged to aid in its extraction from below. After the removal of the child, the uterus contracted with great energy. The uterine incision was closed by interrupted sutures of iron-dyed silk. The toilet of the abdominal cavity was made with care, and the suturing of the external wound made with the same material. About three drachms of dilute alcohol were given hypodermically directly after removal from the table, followed in about half an hour by seven minims of Magendie's solution. Reaction was encouraged by heated dry flannels and hot water bottles; and when I left her, at half-past four, she was in fair condition.

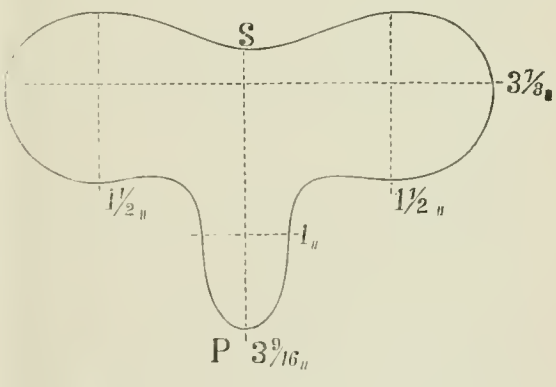
14th.—9 A.M., temp. 99.5°; pulse 120; resp. 20. Has had a discharge of blood from the vagina, about equal to that after normal labor. Free from pain. 6 P.M., temp. 103°; pulse 120; resp. 20. Uneasy and disturbed by flatulence. Gave seven minims Magendie's solution hypodermically.

15th.—9 A.M., temp. 101.5°; pulse 135 to 140, poor in quality. Has had a restless night. Milk and lime water given in small quantities were rejected. Stimulants and beef juice given by rectum. 6 P.M., temp. 102.5°; pulse 140; resp. 20. Abdomen distended with flatus. Vomiting a dark fluid frequently. Seven minims Magendie's solution hypodermically.

16th.—9 A.M., temp. 103.4°; pulse counted with difficulty, about 140. Has not vomited since. 4 A.M., abdomen considerably distended; very restless. 11.30 A.M., death.

17th.—10 A.M., post-mortem examination by Dr. Totman. Externally, she presented the appearance of a child between six and seven years of age. From the knees up she was symmetrically formed. The right tibia showed a marked antecurvature, the left was slightly curved, and the left leg one inch shorter than the right. Measured upon the longer limb, she was 36 inches high. She was said to weigh in health 60 pounds. There was beginning union in the upper part of the abdominal incision. The abdominal cavity presented a few red, longitudinal streaks; otherwise, normal. No signs of union in the uterine incision. The uterus was firmly contracted, and the coaptation of the edges of incision perfect.

The uterus was removed, and the pelvic diameters measured with a pair of carpenter's calipers. The following outline sketch, with the measurements annexed, will give a better idea of the character of



the pelvis and the contractions of its inlet than it is possible to give by verbal description: *s*, corresponds to the sacrum; *p*, the pubes. The pelvis belongs to the class of pseudo-osteomalacia of Michealis. Its outline presents a uniform trifoil form, and was produced during the rachitic period by the acetabula pressing inward and upward with equal pressure. The distance between the iliac crests was six inches. The child (male) weighed 7½ pounds, and measured 20 inches long.

In the course of my hasty preparations, I had resolved to make Porro's operation; but when I saw the surroundings of the patient, I concluded that complete closure of the peritoneal wound was the

The Cæsarean operations of the United States, in dwarfed subjects; by Robert P. Harris, M.D., of Philadelphia.

No order of size	Year.	Operator.	Locality.	Height of Woman.	Conj. Diam.	Color.	Age	Weight of Woman	Time in Labor.	Condition before Operation	Result to Woman.	Result to Child.	Cause of Death of Woman.	References.
1	1875	Dr. Wm R. Grove	Lancaster, Pa.	3 feet	?	White	30	. . . .	3 days	Very unfavorable	Died	Lived	Exhaustion	Phila. Med. & Surg. Reporter, 1875, vol. xxii. p. 298
2	1885	Dr. Ely Van de Warker	Syracuse, N. Y.	3 feet	1½ in	White	30	60	8 hours	Exhausted	Died	Dead	Hemorrhage and exhaustion	Medical News, March 7. 1885, p. 256
3	1858	Dr. A. J Shaffer	Lawrenceville, Ga.	3 ft. 2 in.	1¼ in.	White	28	70	42 hours	Exhausted	Died	Dead†	Peritonitis	Atlanta M and S. Journ., Oct. 1879, p. 65
4	1876	Dr O. P. Barber	Saginaw City, Mich.	3 ft 4 in.	2 in	White	?	65	"Early?"	?	Died‡	Lived	Peritonitis	Detroit Rev. of M & Phar., Sept 1876, p 611
5	1840	Dr. Cyrus Falconer	Hamilton, Ohio	3 ft. 6 in	1¾ in.	White	?	. . . .	16–18 hours	Strength failing	Died	Lived	Peritonitis	Western M. & S. Journ., 1842, p. 340
6	1853	Dr J. W. Crawford	Centreville, Ala.	3 ft. 6 in.	1½ in.	Black	17	. . . .	50 hours	Exhausted	Died	Dead	Exhaustion	Trans. Med. Assoc. Alabama, 1854, p. 175
7	1856	Dr. John B Holmes	Norfolk, Va.	3 ft. 6 in.	2 in.	White	26	86	"Long"	Exhausted	Died	Dead†	Peritonitis	Am. Journ. Obstet.
8	1869	Prof Abram Sager	Ann Arbor, Mich.	3 ft. 6½ in	⅝ in.	White	35	. . . .	8 or 9 hours	Exhausted	Died‡	Lived	Shock and exhaustion	Mich Univ. Med Journ , Sept. 1871
9	1856	Dr. Charles S. Mills	Richmond, Va.	3 ft. 9 in.	?	Black	23	. . . .	4½ hours	Promising	Recovered	Lived	R	Monthly Stethoscope, 1856, p. 434
10	1867	Dr. Charles S. Mills	Richmond, Va.	3 ft. 9 in.	?	Black	34	. . . .	2 days	Very unfavorable	Died	Premature dead	Entero-peritonitis	*Communicated* by the operator, Am Journ. Obstet , 1872, p 650
11	1875	Dr. A. B. Jones	Portsmouth, Ohio	3 ft 11½ in.	⅞ in	White	35	115	38 hours	Exhausted	Recovered‡	Dead	R	The Clinic, Cincinnati, August, 1875, vol ix. p. 64
12	1838	Dr. Richard K. Hoffman	New York City	4 feet	1¾ in.	White	42	. . . .	24 hours	Favorable	Recovered	Dying	R	N Y Journ. M. & Surg., 1839, vol. i. p 214
13	1875	Dr. James Parrish	Portsmouth, Va.	4 feet	?	White	21	. . . .	3 days	Exhausted. Pulse 120	Died	Dead	Hemorrhage (?)	*Communicated* by the operator, 1878
14	1835	Dr. A. Brooke	?	4 ft. 1 in	1¾ in	White	31	. . . .	3½ days	Pulse 120	Died	Dead	Peritonitis	Am. Journ. Med. Sci., 1836, vol. xviii p. 208
15	1880	Dr. George S. Gove	Whitefield, N. H.	4 ft 1 in	2 in.	White	34	82	32 hours	Fever. Exhausted	Died	Lived	Shock and vomiting	*Communicated* by the operator, 1881
16	1878	Dr. Rowland G Curtin	Philadelphia,	4 ft. 3 in.	2 in.	Black	20	. . . .	24 hours	Unfavorable by delay	Died‡	Lived	Peritonitis and heart-clot	Am Journ. Obstet., 1878
17	1878	Dr. C. A. Mann	Perryville, Mo.	4 ft. 4 in	1⅓ in.	White	29	. . . .	30 hours	Fair	Died	Dead. 14 lbs.	Peritonitis	*Communicated* by the operator, 1878
18	1861	Dr. Barnes	Hanover, Pa.	4 ft. 5 in.	?	White	?	. . . .	2 hours	Exhausted	Recovered	Dead	R	*Communicated* by the operator, 1878
19	1859	Dr. Edward R Mayer	Wilkes Barre, Pa.	4 ft. 7 in.	1⅜ in.	Black	35	. . . .	56 hours	Much exhausted	Died	Dead	Septicæmia	*Communicated* by the operator, 1879
20	1835	Prof. William Gibson	Philadelphia,	4 ft. 8 in.	2 in.	White	26	. . . .	12 hours	Favorable	Recovered	Lived	R	Am. Journ. Med Sci., 1835, vol. xvi. p. 343
21	1837	Prof. William Gibson	Philadelphia,	4 ft. 8 in.	2 in.	White	28	. . . .	10 hours	Favorable	Recovered	Lived	R	Am. Journ. Med. Sci., 1838, vol. xxii p 13
22	1846	Dr. Ozias Lewis	Kosciusko, Miss	?	?	White	25	. . . .	30 hours	Exhausted	Died	Lived	Peritonitis	*Communicated* by son of operator, 1872.
23	1855	Dr. Joshua B Graves	Corning, N. Y	?	1 in.	White	26	. . . .	4 days	Much exhausted	Died	Lived	Injury from perforator	Phila. Med. & Surg Reporter, 1869, p. 375
24	1856	Dr. Edward C. Drew	Richmond, Va	?	1¼ in.	Black	19	. . . .	?	?	Died	Lived	Convulsions	*Communicated* by the operator, 1877
25	1871	Dr. John V. P. Quackenbush	Albany, N. Y.	?	?	White	30	. . . .	3 days	Unfavorable	Died‡	Dead†	Peritonitis	*Communicated* 1871, Am. Journ. Obstet., 1872, p. 660
26	1873	Drs. Charles and Gaston Bordis	Napoleonville, La	?	?	Black	20	. . . .	2 days	Much exhausted	Recovered	Dead	R	*Communicated* by Dr Thomas B. Pugh, 1879

Women saved, 7; lost, 19. Whites, 19; Blacks, 7 Whites saved, 5; Blacks, 2 Children saved, 12; lost, 14; by craniotomy (†), 3. Case 20–21, is (1885) still living Shortest woman saved, 3 ft. 9 in. Shortest known, saved, 35 inches (in Brest, France, after 1½ hours labor). Shortest Porro case saved in Europe (Vienna., 3 ft 1 in ; labor, 10½ hours. Uterine sutures were used (‡) in cases 4, 8, 11, 16, and 25. An *early* operation in a dwarf must be considered in reference to her comparative size, and the attempts that may have been made at delivery. Undue loss of blood in the operation is almost necessarily fatal, and exhaustion takes place much earlier than in the average woman To save a dwarf under 4 feet, will require an early operation, and no attempts at turning or craniotomy. One-fifth of the Cæsarean operations in the United States have been performed upon dwarfs, of whom 73 1-13 per cent were lost, and this degree of fatality was largely due to delay in the use of the knife.

safer for the patient. After the patient was placed upon the table, an examination convinced me that laparoelytrotomy is not practicable in the extreme dwarf subject. So firmly was the uterus drawn down upon the pubic spine, that it would have been impossible to have found room for the necessary deep dissection. What may have been the condition shortly after the beginning of labor, I do not know, but it is easy to see that as labor advanced, the force of uterine contractions was expended upon the greatly narrowed pelvic spine instead of the inlet.

Shortly after the date of the operation, Dr. Robert P. Harris, of Philadelphia, the eminent authority upon the Cæsarean section, informed me that since April 6, 1884, there have been six Cæsarean operations in this country, four of them in the last nine weeks, and all ending fatally to mothers and children.

Dr. Harris also sent me the accompanying valuable table, with permission to append it to this report. The note following the table, which is also by Dr. Harris, explains the cause of death in my case, although the amount of blood lost would certainly not more than equal the average amount attending the delivery of the placenta in normal labor, yet, in connection with the shock, it proved too much for the weight and inches of my patient.

CASE OF DERMATITIS HERPETIFORMIS, WITH PECULIAR GELATINOUS LESIONS.

By LOUIS A. DUHRING, M.D.,
PROFESSOR OF SKIN DISEASES IN THE UNIVERSITY OF PENNSYLVANIA.

John S., æt. 64, a native of Wilmington, Delaware, and a peddler by occupation. He has always enjoyed good general health; weight, 175 pounds. No family history. The present skin disease is of five years' duration, but he has had the same only in winter. It has been in the habit of coming on with cold weather and disappearing about the middle of May, and it has pursued this course every year. He never had any skin disease or illness of any kind before seven years ago, when an "eczema" of the right leg appeared, which has been cured repeatedly by ointments, but has relapsed. He is of the opinion that the disease of the general surface which he now has is the same disease that he has had for the last five years; but that it is worse this winter than ever before. When it first came out (in October, 1874) he was in his usual good health. It manifested itself by intense itching on the back, localized chiefly about the lumbar region, which asserted itself in paroxysms, lasting from a half-hour to two hours. They were invariably relieved in the course of ten or twenty minutes by scratching. Unless scratched or rubbed, itching would persist for hours. The itching was unaccompanied by redness. The scratching did not injure the skin, notwithstanding that he was in the habit of employing harsh measures for relief. This pruritus continued all winter, confined to the back, and at no time was accompanied by any eruption. With May it disappeared quite abruptly, as soon, he states, as he began sweating in the course of his pedestrianism. He was entirely well all summer. until October, when the disease again began as in the previous year with intense itching without eruption, and confined to the back, occupying, however, more surface than before. It continued all that winter, as during the previous season, and again disappeared in May.

The following October it reappeared, and now for the first time in the form of small, pinhead-sized, elevated, inflammatory, acne-like, very itchy pustules, which, after having been emptied, disappeared. They were scattered over the back, and were not grouped. They came at irregular intervals, and not in crops. They were present throughout the autumn and winter in varying numbers, and entirely left him in May. The itching was quite as intense as during the two previous years. He states that after these lesions were opened and scratched, decided relief was experienced. In October (third year), itching upon the back again manifested itself, which gradually increased in severity, and continued all winter. The small inflammatory, acne-like, pustular lesions which were present during the second winter did not reappear; but toward the middle of April, what he describes as small, "blind-boil-like" lesions appeared on the back. They neither discharged nor crusted. Two or three came at a time and were very itchy at first, but in the course of two or three days became sore. In the course of the following month there occurred some twenty of these lesions, when, toward the middle of May, they entirely disappeared.

He remained well through the summer, as usual, until October, when the itching confined to the back began as before, unaccompanied by eruption, but a week later the itching began to subside, and now a new kind of lesion appeared, which he describes as follows: When first noticed, two were present over the right scapular region. They were the size of a large thumb-nail, distinctly raised, but flat, with little or no inflammatory areola, of a golden-yellow color, and contained a thick, consistent, orange or deep golden yellow-colored mass. These lesions were in many ways peculiar. They came suddenly, often in the course of ten or fifteen minutes. His attention would be directed to the affected part by a sharp sensation, "like the sting of a bee;" examining the skin he would find one or more lesions present, and, as a rule, already fully formed. They were neither preceded by, nor accompanied with, itching: the sensation was that of a sting. They were superficially seated, appearing to have their seat just beneath the epidermis. They would continue "to sting" until opened with a knife or needle, a knife being the instrument usually selected for the purpose. (He was at this period an inmate of the Wilmington Almshouse Hospital, and was under the care of Dr. Thomas Ogle.)

The lesions were too tough to permit of being ruptured with the finger-nail. He describes them as being circumscribed, firm but not hard, "puffed-up," raised but flat on their summits, and movable under the skin. Some were raised as much as a quarter of an inch or more; others less. As soon as he became aware of their existence, by the stinging sensation, they were opened; the sting was sharp and persistent until they were evacuated. All of these lesions were

much alike as to size, shape, color, and other general characters. When opened with a knife, the mass or contents referred to would come out, or "pop out" entire, without any pressure being exerted, and in the form of the pulp and of the consistence of an ox-heart cherry; the mass was, however, flattened rather than round.

These curious pulpy, gelatinous masses, he states, could be picked up between the fingers, handled, and, if squeezed, would disintegrate. No blood accompanied them, nor did the cavity which remained after the exit of the mass contain any blood, but it subsequently oozed a few drops of a yellowish fluid, of a creamy consistence. A cavity, of course, remained after the exit of these bodies, into which the tip of the index finger could be inserted; but, under a stimulating lotion of iodide of potassium, this healed over, with slight scaling, in a few days, no stain remaining. Sometimes these cavities would refill, and often with surprising rapidity, in less than ten minutes with a material similar to the first product, but not so yellow, and invariably thinner—more of the consistence of thick cream—which could be squeezed out by pressure with the blade of a knife. But not all of the lesions would refill; some would refill as often as three times, and this in from one to twelve hours. He continued to have these very singular lesions throughout the autumn and winter, one, two, three, or more making their appearance, on the average, every day. They did not come in crops, but at irregular intervals, and, as stated, seldom oftener than at the rate of one or two daily. They were at first confined to the back, but subsequently attacked all portions of the surface except the face and scalp.

They disappeared gradually in the following April, and he was free from these and all other lesions throughout the summer.

Present condition, January 13, 1879: The patient was admitted to the Ward for Skin Diseases of the Philadelphia Hospital on November 1, 1878, but did not come under my observation until some weeks later. When admitted, he presented a slight vesicular and papulo-vesicular eruption, in patches and much scratched, occupying the back, abdomen, and extremities. It appeared to be trivial eczema, although he complained greatly of the itching, declaring that it was intolerable. The case, as stated, was regarded as one of eczema, and was placed upon the usual treatment for this disease. The disease disappeared, in a great measure, in the course of a fortnight, but soon recurred, exhibiting the same characters as before.

December 15.—An outbreak of vesicular eruption has recently appeared, showing the lesions in a more positive form. They are *vesicles*, varying in size from a small pin-head to a pea, and possess irregular, angular, jagged borders, such as are encountered in herpes zoster. Although manifestly inflammatory, they are unaccompanied by marked signs of inflammation, being for the most part altogether without areolæ, though the skin between them is somewhat reddened and considerably excoriated from scratching. They are, as a rule, quite flat, but some are raised, looking as though they might develop into blebs. Their contents are either clear and watery or pale yellowish. Those which are flat, and contain a clear fluid, are inconspicuous, and even in some places difficult to detect, and resemble sudamina. The lesions show a distinct disposition to form patches, and, moreover, to cluster, and here and there even to run together; but the grouping is not pronounced, and might readily be overlooked by a casual observer. The back of the neck, shoulders, back, arms, and thighs are the regions especially involved, though other parts are also invaded, but with disseminated, abortive, papulo-vesicular, more or less excoriated lesions.

Antipruritic lotions have been freely used, but with indifferent results, an alkaline tarry preparation affording the most relief. The itching has been intense, preventing sleep and causing the patient to scratch incessantly day and night.

The vesicular lesions above described gradually subsided in the course of two weeks, leaving the skin quite free of lesions, except a general dirty-yellowish pigmentation, the result of scratching. The patient remained well, except that he was still much annoyed with general itching for a week, when the present lesions, pustular in character, began to appear. They have been very gradually increasing in size, and multiplying from day to day, until the existing condition has been reached.

The lesions are distinctly *pustular*, varying in size from a pin-head to a finger-nail. They are of a yellowish-white color; tensely distended in their early stage; flat; surrounded with marked areolæ; and of irregular, more or less rounded or angular outline, and have a contracted or puckered appearance. The older ones are crusted with a yellowish, slightly greenish, flat, uneven, honeycomb crust. The recent small crusts, in many instances, show a decided umbilicated or cupped formation, reminding one of tinea favosa.

The lesions are numerous, and exist upon the scalp, neck, shoulders, arms, forearms, sacral region, buttocks, thighs, popliteal spaces, legs, breast, and abdomen. The hands and feet and genitals are almost free. Viewing the eruption as a whole, the lesions may be said to be disseminated, though they are more abundant in some localities than others, and in some places—as on the buttocks—even incline to cluster. The clusters or groups are made up of two, three, or four lesions, of different sizes, situated closely together, in some instances so closely as to run together. Two decided clusters, of half-dozen lesions each, occupy either buttock, the lesions being small and large, inflammatory, more or less crusted, and evidently increasing in size, accompanied with severe itching.

27th.—The course of the lesions has been carefully noted from day to day. While the greater number of pustules appeared simultaneously during the first few days of the outbreak, new ones have not ceased coming out up to the present period. As a rule, the pustules have started as pin-head or split-pea sized lesions, and have slowly and gradually increased to their determinate size, this varying from a split-pea to a silver half dollar. The time occupied for the growth to the largest size named has been from two to three weeks, a remark-

ably slow growth considering the character of lesions. Many of the smaller ones have assumed their determinate size and have begun to disappear in the course of a week or ten days. In almost all instances, the increase in size has taken place plainly in the form of a complete or broken, narrow ring of flat pustules, which has been kept up just beyond the line of the central crust; as rapidly as this would form, the ring or circle (often imperfectly developed) would appear, which in turn would become merged into the central crust.

Many of the older crusts have been dropping off, leaving dark red, more or less pigmented areas of infiltrated skin. Since the attack began to subside, the itching has decreased, and he now experiences great relief and comparative ease. During the outbreak, "liquor picis alkalinus," a drachm to two or three ounces of water, has been used as a lotion to one side of the body; while on the other half, fluid extract of grindelia robusta, one drachm to the ounce of water, has been employed. The patient states that both remedies gave relief, but that he prefers the tarry preparation. He has also been taking a pill of one-thirtieth of a grain of arsenious acid and a saline laxative as required.

February 4.—No new lesions have appeared, and the recent attack has completely subsided, the skin being in better condition than it has been for many months. Considerable pigmentation, however, remains, and the dark red spots, scattered and in groups, the seat of former pustules, are likewise conspicuous. The itching has abated, though he states that he is still obliged to scratch at night.

22d.—Improvement has been slowly going on during the past fortnight, the pigmentation and staining being, however, very tardy in disappearing. The patient remarks that he fears another outbreak, for within the last four days the itching has been violent.

28th.—The itching has been steadily augmenting from day to day, although until to-day nothing appeared on the skin. A slight papulo-vesicular eruption, indistinctly defined, with irregularly shaped, small, flat, pale-red disseminated, but aggregated lesions, has here and there, over the back, arms, and thighs, made its appearance. The lesions are so scratched that their features can scarcely be determined; the itching, he states, is indescribably intense, and out of all proportion to the amount of eruption. Strong alkaline baths have been used, but without relief.

March 6.—There has been but little new eruption since the last note, the few lesions that have appeared being, as the others in the present attack, abortive papulo-vesicles. The itching has continued, and the patient is suffering considerably; he is in expectation of more eruption, when, in the light of former experience, he looks forward to comparative relief.

22d.—The condition has scarcely changed within the fortnight. The itching and the "pricking, picking sensations," have been intolerable, especially over the trunk, arms, and thighs. To-day new vesicular lesions, as well as papulo-vesicles, have manifested themselves about the neck and over the abdomen, back, shoulders and arms. They are numerous and scattered, or are in patches of a dozen or more. Some are raised, tensely distended, shining, irregularly rounded or angular in outline, varying in size from a pinhead to a split pea; while others are flat, and often are difficult to detect. None have any areolæ, but rise abruptly from the surrounding healthy skin.

27th.—The eruption, which threatened to become extensive last week, has again aborted. The lesions were, without exception, all scratched and lacerated almost as soon as they began to form. The itching still continues, but in a modified degree. The officinal sulphur ointment was to-day ordered, to be well rubbed into the skin twice daily.

April 3.—The sulphur ointment gave decided and prompt relief, the patient stating that no remedy that he had ever before used had acted so effectually upon the itching.

May 1.—A few scattered papulo-vesicular and vesicular lesions, accompanied with itching, have shown themselves from time to time during the month, but there have been no signs of a serious outbreak. The patient is improving, he thinks, from week to week, and eagerly looks forward to the approaching warm weather as a source of relief. It will be remembered that every year he has recovered with summer. The internal remedies, consisting mainly of arsenic, have some time since been discontinued. The patient, at his own request, has been discharged from the hospital, and has not since been heard from.

The notes, extending over a period of several years, have been given at length, because the case is very interesting, especially with reference to the "gelatinous lesions" described. At present I shall not dwell on this subject beyond stating that these lesions have likewise occurred in several other instances of dermatitis herpetiformis which have come under my notice. I believe them to be peculiar to this disease, and to constitute a hitherto undescribed form of cutaneous manifestation.

THE VALUE OF "FORCED DILATATION" OF THE ANAL SPHINCTERS IN THE CURE OF CONSTIPATION, ETC.[1]

By EDWARD M. SCHAEFFER, M.D.,
of Baltimore.

The occurrence of reflex spasms in parts more or less remote from the seat of irritation is a well-known fact, the recognition of which has been much extended of late years by the labors of Sayre, Otis, and others, in their respective departments.

In regarding the nervous derangements and actual paralysis often associated with congenital phimosis, also, the spasmodic strictures, irritable bladders, and neurasthenic disorders relieved, coincidently, with the section of urethral contractions and narrowed meatuses, *analogy* has suggested the application of this principle of cure in cases of obstinate constipation, fecal accumulation, etc., in addition to its more common, though, probably, still infrequent,

[1] Read before the Clinical Society of Maryland, Jan. 16, 1885.

employment for fissure, hemorrhoids, chronic ulcer, and spasmodic contractions of the anus.

Setting aside theory—this simple, mechanical procedure, viz , complete dilatation of the sphincter ani muscles, has been strongly advocated abroad, in France and England, and also by the late eminent author, Van Buren, of New York, as an efficient *substitute* for the knife in the above painful affections. The latter writer, in his work on "Diseases of the Rectum" (p. 93), after crediting Récamier, of Paris, with the original suggestion, describes his method as follows, preferring the use of his fingers to any mechanical instrument: "Introduce both thumbs well beyond the external sphincter, back to back; then, taking a purchase from the buttocks with the outspread fingers, carry the thumbs forcibly apart until their palmar surfaces are arrested by the ischial tuberosities. The stretching is carried far enough to paralyze the muscles temporarily, and thus annihilate their contractile power for a few days."

Allingham, in a similar work, recommends this mode of procedure most highly, and calls it, in properly selected cases, a really admirable treatment. I find also this language bearing on the special theme of my paper (*loc. cit.* p. 58, pamphlet ed.):

"Spasm of the sphincter has been said to be a cause of impaction, but I have more often thought the reverse was the case, and the impaction the cause of the spasm. I must, however, acknowledge that spasm is often the cause of the *constipation*, which is the forerunner of impaction. In impaction spasm of the sphincter always exists. I have certainly met with cases of idiopathic spasm of the sphincter, occurring for the most part in elderly, nervous, single women, and though no impaction was present, there was always more or less constipation."

My attention was first directed to this subject in the practice of Prof. Alan P. Smith, who has, for several years, found sphincter dilatation most serviceable in conditions of anal spasm, hemorrhoids, fecal impaction, etc. I am, therefore, largely indebted to him for any suggestions here advanced, and also for the privilege of adding three cases to my own report.

Case I. is that of a young lady, 24 years of age; nervous temperament; out of health for about *nine* years with the following symptoms: constant headache and nausea, giddiness and fainting spells, great nervousness, irregular heart action; also, a muddy complexion with persistent *acne* of entire face and shoulders.

During this long period (under homœopathic observation), thanks to the suggestion of a friend, some relief was interspersed by the use of hunyadi water. Horseback riding was also resorted to with slight benefit. Whilst attending other members of the family, my aid was first sought in regard to the very disfiguring acne. The patient stated, on inquiry, that the bowels were *moved* regularly every day. Attention to the digestive and menstrual functions availed but little. Local applications to the eruption were only palliative. The use of prepared clay dressings was, however, markedly beneficial. After a month or two of this temporizing, the patient asked, one day, for a strong purgative, as she "felt so choked up she could hardly breathe." She was given a pill, containing, resin podophylli, half a grain, ext. nuc. vomic, and hyoscyamus. This produced several bilious evacuations, accompanying small scybala about the size of a marrow-fat pea; no sense of relief.

Finally the abdomen was examined, and a hardened mass found, plugging up the ascending colon, and extending half way across the transverse. The cæcum was tympanitic, and sensitive to pressure. Castor oil was given freely, and deep injections of soap-suds and water, with ox-gall, administered by the nurse. With the aid of a rectal tube I filled the bowel myself, afterwards, as high up as I could. There was no rectal impaction, but the sphincter grasped the injection tube so tightly that it could not be passed in further than six or seven inches. None of these measures sufficed; the purgatives and enemata gave only liquid passages, while a few small pellets escaped (evidently through a central lumen in the mass). Complete dilatation of the sphincters was then resorted to (October 21, 1884) under chloroform, and followed by insertion of same rectal tube to the extent of nearly two feet, with another full injection.

This settled matters, or rather unsettled them. For a week or more the patient had two or three movements each day, passing large quantities of balls, lumps, and chip-like pieces. Some of the balls were found to contain seeds resembling those of the cucumber and tomato. There was no straining necessary at any time after the operation.

It is interesting to note that the acne of years quite disappeared within two days; and the patient's commentary on the proceeding was, that it had made a new woman of her. The bowel is gradually recovering tone, after its long distention, and acting regularly, under the occasional stimulus of aloes and iron. All nausea, etc., which was invariably severe at each menstrual crisis, has ceased. The instrument employed was the familiar three-bladed anal speculum, screwed up rapidly to its fullest extent.

Case II.—W. B., policeman, æt. 51, a patient of Dr. Getz (to whose courtesy I owe a visit to the case, and also this report), suffered greatly from rectal tenesmus. Cathartics failed to empty the bowel, while the calls to stool came on every few minutes, with straining that was terrible even to witness. About a teaspoonful of mucus, fecal-stained, was usually expelled. To digital examination, the parts were apparently in normal condition.

Dr. Smith was consulted, and advised dilatation for the relief of the tenesmus. Chloroform was given, the three-bladed speculum inserted, and screwed up to its fullest expansion (larger than my wrist), a fecal impaction spooned away, and the presence of numerous superficial ulcers about the region of the internal sphincter ascertained. Some of these were nicked with a bistoury, and the dilatation afterwards repeated; but, during the evacuation of the impacted matter, and for six months subsequently—*i. e.*, until his death, all the actions were free from pain, and easily effected; the relief of the tenesmus being, practically, instantaneous and perfect.

Dr. Smith's cases were, in brief, as follows:

Case III.—An old lady, æt. 50, sufferer for three years from spasmodic anal contraction and constipation; was "dilated;" passed three potfuls of impacted matter, and returned in a week or two, dilating freely herself on an entire cure.

Case IV.—Another case was that of a sailor, troubled with hemorrhoids and obstinate constipation, due to an impaction high up in the bowel, who was similarly treated, with complete satisfaction.

Case V.—R., professional gambler; passed small, flattened stools; had fissure, piles, and chronic constipation; all of which succumbed to full dilatation.

MEDICAL PROGRESS.

Operation for Abdominal Aneurism.—Prof. Loreta a short time since operated on an abdominal aneurism by first puncturing it with a Pravaz needle and introducing through the canal of the needle a silvered copper wire. The movement of the wire caused coagulation to take place in the aneurismal sac—and the operation resulted so favorably that at the end of fifteen days the patient was in excellent condition and a complete cure was ultimately effected.—*Gazetta degli Ospitali*, Jan. 14, 1885.

The Value of Alterations of the Kidneys, Consecutive to Uterine Fibroma, as an Indication for Hysterotomy.—Dr. S. Pozzi, in the *Annales de Gynécologie*, reaches the following conclusions as to the operation above referred to:

1. Compression of the bladder and ureters is a frequent complication of uterine fibroma, even when the tumor is small, and may cause rapid and serious changes in the kidneys (hydronephrosis, cystitis, sclerosis).

2. Compression, when exerted upon the bladder, is easily recognized; not so easily, if exerted upon the ureters. Very frequently there is no suspicion of the latter until lesion of the kidneys has been produced, and change in the normal constitution of the urine (albuminuria).

3. Compression of the bladder, or of the ureters, should have great weight in influencing speedy surgical intervention, and alone may determine it.

4. In case of hydronephrosis, operative interference is particularly urgent, in consequence of the dangers which threaten the remaining kidney, which remains more or less intact. Treatment of these complex cases will be rendered less serious by operation. Hysterotomy should first be performed, and afterward the cystitis may receive attention.

5. The prognosis of hysterotomy is rendered more serious when renal alteration is diagnosticated. If it is very far advanced (confirmed Bright's), it contraindicates the operation; not so if a very slight degree of albuminuria exist.—*Journal de Médecine de Paris*, Jan. 10, 1885.

The Physiological Basis for the Theory of the Origin of Diabetes Mellitus.—E. Seegen (in the *Zeitschr. f. klin. Med.*, Bd. 8, Heft 4), after numerous experimental observations, reaches the following conclusions relative to the function of the liver and the origin of diabetes:

1. Sugar is not (in dogs) a minimum element of the blood. It varies between 0.1 and 0.15 per cent.

2. The blood, after having passed through the liver, contains double the quantity of sugar that existed in it previous to its entering the organ.

3. The passage of the blood through the liver is very important.

4. Through the process of secretion in the liver the saccharine elements are constantly being removed by the blood.

Upon the basis afforded by these conclusions, Dr. Seegen sets forth the following considerations relative to the theory of diabetes:

1. The production of sugar in the liver is a normally physiological function.

2. The normal sugar production is one of the most important functions of tissue transformation.

3. The material for the production of sugar is furnished by the albuminates present in the food.

4. It is more than probable that, as glycogen, the so-called liver starch, has no share in the normal production of sugar.—*Deutsche med. Wochenschr.*, Jan. 1, 1885.

Resorcin as a Hypnotic.—Andeer, in the *Prager med. Wochenschrift*, No. 39, 1884, attributes a hypnotic action to resorcin. The hypnotic effects have been noticed in the treatment of gastro-colitis and in commencing phthisis with implication of the larynx. A case of traumatic tetanus is also referred to in which the drug acted not only as an anti-spasmodic, but also as a hypnotic—*Centralbl. für klin. Med.*, December 27, 1884.

Sulphide of Lime as a Remedy for Ringworm.—M. Dufan proposes the application of the following preparation to the skin as a remedy for ringworm:

Flour of sulphur	100 parts.
Slaked lime	200 "
Water	1000 "

Boil and stir from time to time. When the mass is cold, decant and keep well corked in a bottle.

Before applying the preparation the patient should take a hot bath and afterward should have it thoroughly applied to the skin. He should then be well covered and put to bed.

In benign cases the itching ceases at once. In the more rebellious forms of the disease a second application is necessary. Should irritation of the skin result, it may be relieved by an alkaline bath.—*Journal de Médecine de Paris*, January 31, 1885.

Paralysis due to Hypodermic Injection of Ether.—At a recent meeting of the Berlin Medical Society, Dr. Remak exhibited a young girl, who, after poisoning by carbonic oxide gas, had received a hypodermic injection of ether, which was followed by a partial paralysis of the arm in which the injection was made. Dr. Remak held the opinion that the paralysis was not due to the carbonic oxide nor to a traumatic lesion of the nerve; but simply to the action of the

ether, and referred to the cases to which, in a former number, THE MEDICAL NEWS has already called the attention of its readers.—*Allgemein. Wien. med. Zeitung*, January 13, 1885.

A CASE OF CÆSAREAN SECTION.—On Dec. 30, 1884, DR. DOLAN, at the Halifax Union Infirmary, performed the operation of Cæsarean section on a primipara, aged 26, a pianist, whose height was only three feet eleven inches. She had been in labor five hours. There was great pelvic deformity, the antero-posterior diameter being one inch and a half. Carbolized catgut was used for the uterine wound, silver wire for the abdominal walls. The child was living. The patient died in fifty-four hours.

A post-mortem examination was held seventeen hours after death. The uterine wound was found open, a large clot having been forced through it, owing to the occurrence of vomiting. There was peritonitis, which was the probable cause of death.—*Lancet*, Jan. 24. 1885.

REMOVAL OF A PAROVARIAN CYST.—PROF. CECI, a short time since, performed successfully the very difficult operation of removing a cyst of the parovarium. It was unilocular and contained about forty-three pints of fluid, and was adherent through an anterior peritonitis, which had completely abolished the peritoneal cavity. He carefully separated the tumor from its intestinal attachments, and from the great vessels of the pelvis, and the necessarily numerous ligatures prolonged the operation through three hours.

Very little blood was lost; at the lower end of the abdominal suture four drainage-tubes were introduced. The condition of the patient was almost apyretic. On the eighth day the dressings were removed, and, complete union having taken place, the drainage-tubes were removed and the patient was completely cured. The extreme gravity of the case—not taking into account the size of the tumor, which was considerable—the difficulty of detaching it, the danger of strain and contusion of the abdominal viscera, the great length of time the operation lasted and the rapid recovery render the case remarkable.—*Gazetta degli Ospitali*, Jan. 7. 1885.

DANGER OF INJECTIONS OF TINCTURE OF IODINE REPEATED AT SHORT INTERVALS, IN THE TREATMENT OF HYDROCELE.—M. TILLAUX, in his service at the Hospital Beaujon, cautions against the danger of hastily repeating the injection of the tincture of iodine in hydrocele already injected. Six weeks are required before the results of the first injection can be determined. The danger lies in producing a false membrane which bleeds on the slightest provocation, and forming a hæmatocele, destroys the testicle. A patient 60 years of age who had been thus unfortunate, was exhibited. For two years he had had a left-sided hydrocele. Fifteen days after the first injection of iodine his physician had made a second and stronger one, with the result of producing a hæmatocele.

As to treatment: in a young subject a drainage-tube should be introduced, if decortication is impossible, as a possible means of preserving the testicle, even at a risk of long-continued suppuration; but in the old, if it be impossible to remove the false membranes—castration should be performed and the danger of an open wound thus obviated.—*L'Abeille Médicale*, Jan. 12, 1885.

NEEDLE FOUND IN THE RIGHT HEART.—DR. LEUBUSCHERE reports the discovery of a needle in the heart of a woman, aged 74 years. She died of cancer of the breast, and at the post-mortem a foreign body was discovered in the right ventricular septum, near the orifice of the pulmonary artery. Its presence was revealed by a slight prominence covered by thickened endocardium. Incision brought to view a long round iron body, uneven and brittle, owing to oxidation. It was completely encapsulated in a fibrous sheath. No trace could be found of its point of entrance. A consideration of the circumstances justified the conclusion that the foreign body for a long time had occupied its position in the heart wall, and had become harmless by encapsulation.—*Centralbl. für klin. Med.*, Jan. 31, 1885.

COCAINE IN RECTAL SURGERY.—On January 27th, at the West London Hospital, Mr. Swinford Edwards ligatured six large hemorrhoids in a woman aged fifty. As she was the subject of aortic disease, it was decided not to administer an anæsthetic. One minim of a four per cent. solution of cocaine was therefore injected into each pile at the muco-cutaneous junction, after which the entire surface of the mucous membrane at the lower part of the rectum was painted over with a like solution. The operation, which lasted twelve minutes, was almost painless, the patient only slightly feeling the last incision. Twenty-five minims of the solution of cocaine were used in all.—*Lancet*, Jan. 31, 1885.

EXTIRPATION OF A PAPILLARY ADENOMA OF THE BLADDER BY INCISION THROUGH THE VAGINA.—KALTENBACH, in the *Archiv f. klin. Chir.*, Bd. xxx. Heft 3, 1884, reports a case of a woman who for two years was affected with hæmaturia. Dilatation of the urethra revealed a tumor the size of a walnut on the anterior wall of the bladder. Dr. Kaltenbach made an incision an inch and a half long in the vesico-vaginal septum, and removed the tumor by the aid of the bistoury, scissors, and Paquelin cautery, after he had ligatured its base with several silk threads. The vaginal wound was closed by eight wire sutures. The ligature left in the bladder escaped through the urethra in fourteen days, and the patient was completely cured.

THE PARENCHYMATOUS INJECTION OF ARSENIC IN GOITRE.—DR. F. DUMONT, in *Correspondenzbl. f. Schweiz Aertzte*, No. 9, 1884, reports the use of injections of Fowler's solution in twenty-six cases of goitre. In one case, two and a half drachms of the undilute solution were injected. There occurred once, as a result of this injection, serious collapse, and generally, the effects were of little importance. In colloid bronchocele no results were manifest. Of three cases of cyst, in two so great inflammation supervened that excision became necessary, in one there was marked diminution. In one case of hyperplasia diminution followed; in colloid hyperplasia there was improvement, and in follicular bronchocele no results were obtained.—*Fortschritte der Medicin*, February, 1885.

THE MEDICAL NEWS.

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SATURDAY, MARCH 7, 1885.

SUPRAVAGINAL HYSTERECTOMY AND OVARIOSALPINGECTOMY IN UTERINE MYOMA.

IN the *British Medical Journal* for January 31, 1885, DR. THOMAS KEITH gives a table of 13 complete supravaginal hysterectomies done by him in 1884. Adding to these the 25 cases previously reported, his 38 operations indicate 35 recoveries and 3 deaths, or a mortality of only 7.89 per cent., which is the best result ever attained by any surgeon.

It is to be regretted that in this, as in his first, paper, Dr. Keith has not given the details of his operative procedures. In the majority of his first 25 cases, the operation was extraperitoneal, the stump having been secured outside of the belly by a large clamp. The broad ligaments were almost always separated off the tumor and tied separately, being sometimes left inside and sometimes secured outside. The bladder was left full, in order that its edges might be readily recognized, and in six cases the viscus was dissected off the uterus, and great enucleation was often required in order that the serre-nœud might be applied as low down as possible. He now states that every case must be a law unto itself in dealing with the attachments of the tumor. A few of the simpler cases may be treated extraperitoneally. The broad ligaments must generally be left inside. Sometimes the treatment may be entirely intraperitoneal by means of Kœberlé's serre-nœud, or it may be half intra- and half extraperitoneal, the latter demanding much subsequent care, although the period of convalescence is much shorter than when the entire stump is left outside He thinks that the future of the operation will depend upon the perfecting of the intraperitoneal mode of managing the stump, and is hopeful that the cautery will be found the best and safest treatment. As in ovariotomy, he long since abandoned the use of the carbolic spray during these operations. In only 6 of the 38 was it employed, and 1 of these perished. Of the 32 done without the spray, 2 died of exhaustion.

In view of the extraordinary success attained by Keith, we may be considered impertinent in questioning his methods of operating; but we are convinced that the extraperitoneal mode of dealing with the stump affords far better protection against hemorrhage and sepsis than does the intraperitoneal treatment. Since the former has been adopted, results have greatly improved, as is shown, indeed, by Keith's own cases, in the majority of which it was employed, as well as by the experience of other operators. Thus, of 99 cases from the practice of Tait, Bantock, Thornton, Kasprzik, Koltenbach, Terrier, Queirel, and Howitz, of which we happen to have notes, 20, or 20.2 per cent., perished, while of 46 examples of the intraperitoneal method from the practice of Tait, Bantock, Thornton, Kuester, and Olshausen, 29, or 63.02 per cent., perished. It is, of course, possible that future improvements in the intraperitoneal method may greatly reduce the risks of complete extirpation of the uterus; but the majority of operators at present prefer securing the stump outside of the belly, and the wisdom of their choice is attested by the statistics which we have just given.

The results of complete supravaginal hysterectomy vary greatly in the hands of different operators, and it is interesting to compare the success attained by some of the more prominent surgeons of Great Britain. Thus, Tait has had 54 cases, with 35 recoveries and 19 deaths, or a mortality of 35.18 per cent.; Keith, 38 cases, with 35 recoveries and 3 deaths, or a mortality of 7.89 per cent.; Savage, 17 cases, with 13 recoveries and 4 deaths, or a mortality of 23.52 per cent.; Bantock, 14 cases, with 11 recoveries and 3 deaths, or a mortality of 21.44 per cent.; and Thornton, 12 cases, with 7 recoveries and 5 deaths, or a mortality of 41.66 per cent. The entire number, 135, indicates 101 recoveries and 34 deaths, or a mortality of 25.18 per cent. Just why such marked differences in the death-rate should exist it is impossible to state, since all of these operators have a large experience in abdominal surgery. Mr. Thornton maintains that "it is to the perfecting of our antiseptic precautions that we must look for improved results;" while Mr. Savage advises a "drainage-tube being placed above the clamp, if there be the least reason to expect oozing downwards into the pelvis." These precautions were not observed by the majority of the operators that we have mentioned; and, strange to say, the best results have followed in the very cases in which they have not

been employed. Thus, without Listerism, Keith lost only one out of every sixteen, while Thornton, with Listerism, lost nearly one-half of his patients. If we were to base an opinion upon these data, we would be right in stating that strict antiseptic precautions were a drawback instead of an advantage; but it is manifestly wrong to lay the blame upon the omission or observance of a single detail in the technical method of operating. We, ourselves, believe that future success will depend upon the further development of the technical method, and, in the meanwhile, we cannot too urgently insist upon the importance of clean fingers, instruments, sponges, ligatures, and sutures, the prevention and thorough arrest of hemorrhage, a clean and dry peritoneum, and the extraperitoneal treatment of the stump.

Although, as we have seen, Keith is an eminently successful hysterectomist, he shows a proper conservatism, operating only in extreme cases in which life is rendered useless. The tumors were generally large, the patients were more or less broken-down by pain and hemorrhages, not a single one having been in good health or in good condition, and not a single pedunculated neoplasm was interfered with. In examples of small myomata, or those weighing less than nine pounds, he resorts to removal of the ovaries, and in the twelve cases in which he practised that operation more or less benefit resulted, menstruation, however, continuing in one in consequence of a fragment of ovarian structure closely adherent to the tumor having been left behind.

The removal of the ovaries, as is well known to those who have had experience with the operation, is not always so simple a procedure as the unexperienced surgeon might imagine. Thus, in nine of the hysterectomies of Keith, the operation was begun for the purpose of removing the ovaries only; but they were either not found, or, if found, they could not be excised. In one case, indeed, the silk ligature cut the ovary clean off, leaving a hole in the side of the uterus, the hemorrhage from which could only be controlled by removal of the tumor.

Despite the difficulties which now and then attend oöphorectomy, that operation—or, still better, removal of the appendages—should be performed for the arrest of the growth of uterine myoma as soon as symptoms draw attention to the disease, with the view of restricting the grave operation of hysterectomy to the small group of cases in which life is threatened, and the lesser procedures are impracticable. The recent statistics of Wiedow, published in the *Archiv für Gynækologie*, Bd. xxiv. Heft 2, show that of 112 cases of oöphorectomy derived from all sources, 17, or 15.18 per cent., perished, mostly from sepsis. In 73 in which the result was known, the bleeding ceased and the menses were arrested in 53, and there was simultaneous diminution in the size of the tumor in 36. These results are not very satisfactory; and the fact has been established that removal of the ovaries alone does not always effect the menopause or stop the growth of the tumor.

For these reasons, Tait recommends the removal of the appendages in the class of cases under consideration, in which he is supported by Thornton and Savage. Of 139 cases in the hands of these surgeons, 132 recovered and 7, or 5 per cent., died; Tait having lost 7 out of 99 cases, while Thornton's 15 and Savage's 25 cases were successful. Of 81 supravaginal hysterectomies, on the other hand, performed by the same operators, 27, or 33 per cent., perished, thereby establishing the more formidable nature of the latter procedure. Just how satisfactory the removal of the appendages has been, we are unable to say; but the cases operated on by Tait up to July, 1883, show that the results left nothing to be desired. The procedure certainly has a great future before it in myomata which prove troublesome from hemorrhage and pain before they attain a volume which might demand the more dangerous operation.

HÆMATOCELE AFTER REMOVAL OF THE APPENDAGES.

In connection with the question of removal of the appendages for uterine myoma, we may call attention to Mr. Tait's experience with that operation for inflammatory disease of the appendages. Of his 201 cases, 10, or 5 per cent., perished. In the majority, relief was complete and immediate; but he cannot speak precisely of the absolute effects of the operation, because a sufficient time had not elapsed in very many of the cases.

In 13 cases, however, for a period varying from six months to two years, little or no relief was obtained, and in every one of these the cause of failure was the formation of a hæmatocele, generally within a week after the operation. In some it was clearly localized on one side, while in others the effusion uniformly surrounded the uterus. In every case, the pulse and temperature went up, there was much pain, and the patient remained an invalid. In one patient, the effusion having suppurated, Mr. Tait reopened the belly about four months after the original operation, and cleaned out a small quantity of pus, with the result of affording complete and immediate relief.

The accident described by Mr. Tait has been met with by Mr. Savage, who briefly notices it in the *British Medical Journal* for January 31, 1885, in which number Mr. Tait's paper may also be found. In two cases, in the third week after the removal of the appendages, a second laparotomy was made, blood and pus evacuated, and a drainage-tube inserted. Both patients recovered, although the symp-

toms indicated a fatal issue before the belly was opened.

The occurrence of these hæmatoceles is most puzzling; but they constitute an important cause of failure after the removal of the appendages, and we are indebted to Mr. Tait for having recognized and called attention to them.

GENERAL GRANT'S CONDITION.

The very grave character of the disease with which General Grant has been afflicted since last August has been fully appreciated by those connected with him by domestic and professional ties, but, for reasons that can be readily imagined, their fears and convictions have not, hitherto, been publicly expressed.

The first symptom of his present distressing affection was persistent pain at the back of the tongue, and it manifested itself last August while the General was at Long Branch. He was urged by Dr. DaCosta, who was asked to look at the tongue, while making a social call upon the General, to lose no time in consulting his family physician, Dr. Barker, but, as a slight improvement followed, this advice was not acted upon until after the lapse of several weeks.

When the General returned to New York in the beginning of October, there was upon the right side of the tongue opposite the tonsil an ill-conditioned ulcer, which, at times, was very painful. He was at once placed by Dr. Barker under the care of Dr. J. H. Douglas, under whose treatment the pain grew less, and the ulcer showed a tendency, slow and intermittent, but still progressive, to heal. During the latter part of November and the most of December, the pain in speaking and swallowing was very great. At about the same time he entirely abandoned the use of tobacco and had several defective teeth drawn, in the hope of thereby diminishing the pain and hastening cicatrization.

Within the last two weeks the disease has progressed very rapidly, and has destroyed the right anterior pillar of the fauces; it occupies also the anterior portion of the right tonsil and the contiguous portion of the tongue in the form of an ulcerated induration. There is also some glandular enlargement in the neck. The edges and base of the ulcer are indurated, and microscopical examination of fragments removed from it show groups of cells characteristic of epithelioma.

The general condition of the patient has suffered, and he is anæmic and thin. Although the General suffers greatly at times, he has many intervals of relief in complete freedom from pain. He is cheerful, although fully aware of his condition, and actively occupies himself in the preparation of his military memoirs.

As the disease is steadily progressing, and has involved the tonsil and fauces on the right side, as well as the contiguous base of the tongue, there can be no question as to the inadvisability of attempting operative interference.

Our readers will share with us the deep regret with which we have learned that the days of General Grant are numbered. There is something infinitely touching in the patient heroism with which the General endures his cureless suffering. Propped up on pillows, he is described as working steadily upon the history of his military life which he is anxious to complete before he is called away. We are sure that everywhere throughout the land, South as well as North, there will be heartfelt sympathy with the troubled ending of a career which but a year ago seemed so brilliant. The magnanimity which he displayed in the hour of victory has won for him a sure place in the hearts of all his countrymen.

Our regret at this unwelcome intelligence is the severer as it was wholly unexpected, since the *Medical Record* only a fortnight ago stated, as if by authority, "that all fears of grave complications are for the present at an end." Subsequent to the date of the microscopic examination of the diseased tissue, which proved it to be malignant, the *Medical Record* assured us, in the same article which was furnished in advance to the Associated Press, and thus disseminated throughout the land, "that all the more serious and alarming symptoms connected with the tongue and throat have entirely disappeared." Our contemporary owes to the public and to the profession an explanation of this misinformation, for which we observe that Dr. Douglas disclaims all responsibility.

THE NEW BUILDING FOR THE ARMY MEDICAL MUSEUM AND LIBRARY.

We take very great pleasure in announcing that the Senate has passed without amendment the House bill providing for the erection of a fire-proof building to be used for the safe keeping of the records, library, and museum of the Surgeon General's Office of the Army. This measure has been for the last four or five years persistently urged upon Congress by the medical profession of the country, and its final success is extremely gratifying.

At one time it seemed as if the bill would fail, owing to disagreement between the House and Senate as to the location of the building, but this was happily averted, and in accepting the House Bill the Senate has acted wisely.

The Act provides that the building is to be constructed on the government reservation in Washington, in the vicinity of the National Museum and the Smithsonian Institution, the precise site to be selected by a commission composed of the Secretary of War, the Architect of the Capitol, and the Secretary of the Smithsonian Institution. It is to be in accordance with plans and specifications submitted by the Surgeon-General of the Army and approved by the above-named commission, and to cost not more than two hundred thousand dollars, and is to be built under the direction of the Secretary of War. The sketch plans originally prepared for this were for a central building, 114 by 48 feet, and two wings at right angles to this, each 126 by 60 feet. One of these wings is to contain the library and the other the museum, the central building being occupied by offices and records. Some modification of these plans will be necessary, as the estimate to complete them was two hundred and fifty thousand dollars, while but two hundred thousand were granted. The building is to be of brick, very plain and simple in style, but thoroughly fire-proof.

As soon as the incoming Secretary of War is ready to attend to business, this will be one of the first matters to claim his attention, and it is hoped that the building will be completed and occupied by the time the International Medical Congress meets, in 1887, when it will be one of the most interesting features of the place to our foreign guests.

A very large majority in both Houses of Congress were in favor of the passage of this act, and among so many it is hard to particularize, but the thanks of the profession are especially due to Representatives John F. Follett, of Ohio; Theodore Lyman, of Massachusetts; S. M. Stockslager and W. S. Holman, of Indiana, and to Senator J. R. Hawley, of Connecticut, for the manner in which the bill was managed in the crush of business, during the last days of the session, which threatened to overwhelm it.

COMMON SENSE AS TO VIVISECTION.

BOTH in reformers and legislators common sense is eminently a desirable characteristic. The exaggerated, and in many cases absolutely false, statements of the antivivisectionists have led many benevolent persons to believe that vivisection consists in the deliberate "cutting up" of living dogs and other animals piecemeal until not enough is left to live. The medical profession, with the exception of a few abnormal minds, know that the fact is that many of the experiments are of the simplest character, others are comparatively slight operations, and a few of a severe character—the last two nearly always done under anæsthetics. Doctors do not delight in cruelty. In fact, the followers of no other occupation are so constantly and conspicuously humane.

We are glad to see that this rational view of vivisection experiments in medicine has received in Germany official sanction.

Herr von Gossler, the Minister of Public Instruction, has just issued a decree to all the medical faculties of Prussia, announcing that official reports have fully convinced him that at the universities, the scientific experiments practised upon living animals are made with a due regard to both science and the dictates of humanity—this, too, in a country that has been attacked most fiercely by the antivivisectionists.

The regulations which he has promulgated are eminently the dictates of common sense. He decrees as follows: 1, Experiments with live animals are only admissible for purposes of scientific investigation or instructive demonstration; 2, at lectures these experiments are allowed only in so far as they may be required for a full understanding of the instruction imparted at such lectures; 3, the preparations for experiments at lectures are, as a rule, to be made previous to actual demonstration, and in the absence of the students; 4, the experiments shall only be made by professors or teachers, or under their special supervision and responsibility; 5, experiments which, without detriment to the result, can be made on animals of a lower order shall only be practised on such, and not on more valuable animals; and, 6, in all cases in which it is not absolutely incompatible with the end and aim of the experiment, the animals must previously be anæsthetized.

If our friends opposed to vivisection are in earnest in their efforts to protect animals from cruelty, and yet not inflict cruelty upon both man and animals by obstructing the humane progress of medical science, they would consent to a law embodying such reasonable restrictions as are here outlined.

We have no doubt that the most earnest and active friends of medical progress, here or elsewhere, would willingly join them in obtaining such a law.

WE understand that an unfortunate man afflicted with hypospadias has been exhibiting himself under the name of "Madame Duplex de Balzac," in a house on North Eleventh Street in this city, and that he sent out circulars inviting those interested in "science" to call and examine him. Of course such a case possesses no novelty for physicians, and the "scientists" who pay for admission will be principally the fast men about town. For decency's sake, we are glad to learn that this exhibition of "Madame Duplex's" genito-urinary organs has been stopped by the police.

REVIEWS.

Intestinal Obstruction, its Varieties, with their Pathology, Diagnosis, and Treatment. The Jacksonian Prize Essay of the Royal College of Surgeons of England, 1883. By Frederick Treves, F.R.C.S., Surgeon to, and Lecturer on Anatomy at, the London Hospital; Hunterian Professor of Anatomy at the Royal College of Surgeons of England. With 60 illustrations. 12mo. pp. 575. Philadelphia: Henry C. Lea's Son & Co., 1884.

This little book, one of the series of clinical manuals for practitioners and students of medicine, is just such a work as every physician should read over during his first leisure evening, and then keep on an upper shelf of his library for immediate reference, at any time when a case of bowel obstruction occurs in his practice. The extent of our medical literature is now so vast, that only phenomenal minds can attempt to grasp, still less to hold fast to, all the details of its various subjects. Hence, for an ordinary practitioner the only available method is, to supply himself with the best and most recent treatises on the rarer forms of disease, and diligently consult them in turn, as emergency may require, for the special knowledge they are able to furnish.

The importance of the subject of intestinal obstruction is shown by the fact, that over two thousand persons die in England alone, every year, from obstruction of the bowels exclusive of hernia. The classification of the various forms is made on pathological grounds, because our knowledge of the morbid anatomy is so much more complete than the clinical history. The illustrations are nearly all original, and as a general rule excellent, considering how difficult it is to represent clearly such a convoluted object as a knot in the intestines, or an ileo-cæcal intussusception. In his valuable chapter on the treatment, our author devotes several pages to a consideration of the use of opium, which he pronounces of more use than any other drug, not only for allaying pain, mitigating spasm and shock, but even in some cases sufficing to cure the disease. On account, however, of the power which this narcotic possesses of obscuring the symptoms, a judicious caution is urged in its employment until after a definite diagnosis has been made, or a definite plan of treatment decided upon. The dangerous effects of the administration of aperients in cases of intestinal obstruction are especially insisted on, the use of ice, electricity, and massage is guardedly recommended, and copious enemata or insufflation by Lund's inflator are heartily approved in suitable cases. Of the operative procedures laparotomy is declared to be the most important, and likely in the future to occupy a still more conspicuous position than it does at present. A median incision is advised, and the hand being introduced into the cavity of the abdomen, the cæcum should be searched for, and examined, as a guide to the seat of trouble, which is to be relieved, if possible, according to subsequent rules. The entire operation is expected to be performed under the strictest antiseptic precautions, for it would certainly appear that laparotomy has been attended with greater success since the introduction of Listerism. In a series of one hundred and twenty-two cases of laparotomy for intestinal obstruction, exclusive of intussusception, collected by the author, the number of deaths was seventy-seven, a mortality of about sixty-three per cent. Mr. Treves, however, shrewdly observes that there is no doubt the death-rate after laparotomy is a very great deal higher than that shown by this table, for probably the recorded cases bear to those that are unpublished the proportion of one to ten, "and it may be surmised that the great bulk of these unpublished cases ended in death."

SOCIETY PROCEEDINGS.

NEW YORK STATE MEDICAL ASSOCIATION.

Fifth District Branch.

Scientific Meeting, held at the Clarendon Hotel, Brooklyn, February 25, 1885.

The President, J. C. Hutchison, M.D., in the Chair.

Dr. Hutchison, in opening the meeting, spoke as follows:

Gentlemen: By virtue of my position as one of the Vice-Presidents of the New York State Medical Association, and as President of the Fifth District Branch Association, I call you to order and bid you welcome. This, as you know, is our initial meeting, and it is desirable that we should start right on the professional road open before us. The Branch Association of the State Association of which we form a part, includes in its area Dutchess, Putnam, Westchester, Ulster, Sullivan, Rockland, New York, Richmond, Suffolk, James, and Kings Counties. The desire of the friends of medicine represented by this Branch is ultimately to arrange for frequent meetings of the Fellows in this and other counties of the district.

It is entirely easy for physicians to enter our fellowship. All who become members of the State Association are by virtue of that relation members of this Branch Association. Such is the manifest value of a union of action, where there is union of interests, that all who, in the profession, are in sympathy with us should join the State Association and thereby become members of this Branch Association. The success of the State Association has been remarkable. There were more than five hundred and fifty members who joined in the first year of its existence, and the accessions are large and constant.

Still, I desire to say that mere numbers is not the object; the aim is to get the best material for effective and congenial work on behalf of the best interests of the profession and of the public. One of the great features is freedom from legal control or complications. The Association wants nothing to do with the Legislature or any other political body. It desires to be free to admit or reject whom it pleases. At all times ready to give information when requested to the civil authorities, executive, legislative, or judicial, it still wishes no official connection with them; for medicine is a voluntary, self-independent profession, governed by its own rules.

At the same time, toward all our brethren of a like faith, but of a different policy, we all, I know, would have only the kindest feeling. Men of culture and honor can differ without anger or loss of mutual self-

respect. I am persuaded that as our Branch Association completes the initial work of organization and engages in the professional objects and deals with the subjects germain to our calling, our union will be found pleasant and profitable, and one crowned with the approbation of our consciences and with beneficial results to humanity, to science, and to ourselves.

DR. J. W. S. GOULEY, of New York, read some

NOTES ON CONTRACTURE OF THE BLADDER, CONSEQUENT ON CYSTITIS.

They consisted of a series of cases, occurring in both males and females, of a kind which, from the suffering they entailed and the evil consequences arising from their neglect or improper treatment, he thought were well worthy the attention of the profession. The term *contracture* was taken from the French, and best expressed the condition of the bladder to which he referred. This contracture might be general or limited to a portion of the viscus. Its existence was often not discovered until the difficulty had become irremediable; but if taken in hand early, such cases could usually be cured, or, at all events, treated to such advantage that permanent relief would be afforded.

Among the causes, which included everything that might occasion a difference in the character or quantity of the urine, were mentioned stone and foreign bodies in the bladder, papillomata of the mucous membrane, urethritis, hypertrophy of the prostate gland, disease of the nervous centres, displacements of the uterus, anæsthesia by ether, too frequent or careless catheterization, and fecal accumulations. Hysterical women and men of nervous temperament frequently suffered from cystitis. In them polyuria was common, and, if this continued unchecked, it would be pretty sure to give rise to vesical trouble. The quantity of urine passed would soon become diminished with each act of urination; but the desire to urinate would constantly increase, and violent contractions of the bladder would result. The urine would contain a large amount of vesical epithelium, and the mucous membrane of the bladder would become "water-logged." In consequence of the irritation excited, permanent contracture was liable to result. On the other hand, the opposite extreme from polyuria, in which the specific gravity was low, viz., a condition of the urine in which the specific gravity is very high, such as was met with in diabetes mellitus, would also give rise to cystitis and contracture of the bladder. He did not mean to say that cystitis occurred in all cases of diabetes; but he thought it could not be denied that it was of very frequent occurrence in this affection. How was it, then, that the same effects were produced in the bladder by urine of both a low and a high specific gravity? The explanation was that when the urine was of low specific gravity, the epithelial cells of the vesical mucous membrane became swollen by an endosmotic process, died, and were cast away, while when it was of high specific gravity, the epithelial cells by an exosmotic process shrivelled, and then died and were cast away. The final result being in either case the same, the denuded mucous membrane suffered constant irritation from the urine in contact with it. The urine was rendered especially acrid by certain medicinal substances, such as opium, cantharides, balsams, etc.

When there was a stone or foreign body in the bladder, the walls of the latter sometimes grasped it very tightly, being kept in a tonic state of spasm by the irritation which it set up. Such a condition often deterred surgeons from performing lithotrity and induced them to resor to lithotomy instead; but this difficulty could be entirely overcome by the exercise of a little care and patience. In speaking of uterine displacements as a cause of contracture, he referred to a very severe case of the kind which he saw a number of years ago in consultation with the late Prof. George T. Elliott. Here the cystitis was occasioned by the pressure of an anteverted uterus, which had become permanently fixed by adhesions in this malposition, so that it was impossible to replace it. In a case of contracture, occurring in an old lady, which was due to the presence of urethral papillomata, the trouble was of many years standing. When she first came under observation the bladder had become diminished to a capacity of only half an ounce, but he had finally succeeded in increasing its capacity to four ounces, beyond which point he did not think it was safe to attempt to enlarge it. Acute urethritis in the male sometimes resulted in permanent contracture with sclerosis of the connective tissue of the bladder.

In prostatic obstruction, the first effect of the condition was to cause a series of violent contractions of the bladder, with the passage of only a small quantity of urine at each effort. The strangury continued week after week and month after month, until not a drop would come with the expulsive efforts. Then the contractions would cease and the bladder become overdistended with urine and overflow drop by drop, while inflammation of the enlarged lower fundus would result from the alkaline condition of the retained urine. Hypertrophy of the bladder was the almost universal rule, and one of the worst things that could possibly happen to a patient suffering from enlarged prostate would be a condition of atrophy. For himself, he had yet to see the very first instance of atrophy and atony of the bladder, which were claimed by some authorities as the usual condition in enlarged prostate. Neglected urethral stricture, as well as chronic urethritis, sometimes caused an amount of vesical contraction which finally resulted in permanent contracture.

Certain diseases and injuries of the nervous centres had been referred to among the causes of contracture. If the bladder was paralyzed, incontinence, and not retention, of urine would result. He had seen a number of autopsies in cases of fracture of the spine, and found that contracture of the bladder was present. There was also generally hypertrophy.

One of the last of the exciting causes given was the use of ether as an anæsthetic, and Dr. Gouley said this was mentioned as a warning to surgeons in the habit of employing ether for this purpose. In thirty cases out of one hundred operated on for hemorrhoids, he had found that there was contracture of the bladder, originating in the effect caused by the ether inhaled at the time of the operation. The action of this agent was twofold—first, on the kidneys, producing polyuria, and, second, on the urine, which it rendered irritable in character. There was apt to be retention of urine from tonic spasm of the neck of the bladder, and hypertrophy with chronic contracture finally resulted. To

avoid these disastrous consequences, he advised that patients about to undergo an operation should be required to urinate just before and just after taking the ether. Cystitis, being the principal factor in the production of vesical contracture, Dr. Gouley continued, was always present; and he then proceeded to give a sketch of its various symptoms.

The general treatment of contracture consisted in the use, first, of those remedies which tend to diminish pain by their influence on the nervous system, and, second, those which favorably affect the character of the urine. Opium in a few full doses was often of great service at first; but, except where there was polyuria, it had an injurious effect if kept up for any length of time. Belladonna is very useful; but unfortunately it could not be administered for more than two or three days in succession on account of its toxic effects. It could sometimes be given with advantage combined with opium. Hyoscyamus, or its alkaloid hyoscyamin, was also useful; but, like belladonna, it was impossible to keep it up but for a very short time, and for the same reason. In polyuria, opium was beneficial; but he had never attempted to persevere very long in its use for fear of engendering the opium habit in the patient. Among the other agents that he had found of service in contracture were ergot, gallic acid (in twenty-grain doses), and citrate of soda, particularly with hyoscyamus. In regard to hyoscyamin, he was aware that Dr. Squibb had objected to its use by the mouth, on the ground that it rapidly underwent decomposition in the stomach, but he had seemed to get very good results from its administration in this way. In certain cases in which there was much induration, he was in the habit of using tincture of the chloride of iron, and he usually combined this with cantharides and ergot. Strychnia or nux vomica he regarded as particularly injurious. Salicin combined with bromides was useful. No good result could ever be obtained, however, unless the rectum was kept empty.

In the young and strong, local depletion by the application of leeches to the hypogastrium and perineum is of service, but unless the patient be quite robust, the procedure is unsafe. Ordinary irrigation of the bladder is clearly contraindicated in the acute stages of cystitis. For the relief of cystitis and contracture at the same time, he strongly advocated slow and gradual hydraulic distention of the bladder, as practised by Dr. C. E. Allen; a method of treatment which had, unfortunately, been given up to a large extent at the present time. Sudden dilatation of the bladder with the aid of anæsthetics, which had been so highly lauded by some authorities, he thought, was not to be recommended, as it was apt to be followed by bad consequences. The injection of strong solutions of nitrate of silver was advised by some; but this was dangerous, and very likely to render the difficulty incurable. In cystitis, the nitrate of silver is of unquestionable value, but it should only be used only in weak solutions.

After a few days of treatment in any case, the surgeon would be able to tell how much good was to be expected from the use of gradual dilatation. For instance, if at the first sitting the capacity of the bladder was found to be only one ounce, and at the next to be half an ounce more, and if at the third sitting an additional half ounce still could be thrown into it without causing pain or irritation, there would be a good prospect of speedy relief and perhaps cure. If the urine remained purulent, it was recommended that the nitrate of silver should be employed, beginning with a solution of the strength of only one-tenth of a grain to the ounce. It was seldom necessary to use a solution of greater strength than one grain to the ounce. The injections should be repeated every four or five days. After a stone or foreign body which had given rise to cystitis had been removed, it was of the utmost importance, although it was a point that was often entirely lost sight of, that the condition of the bladder should be attended to. After lithotomy and lithotrity, it was not infrequent to see vesical contraction resulting that might, with proper care, have been avoided.

Dr. E. R. Squibb, of Brooklyn, said that he was expecting Dr. Gouley to say something more in regard to the beneficial effects of iron. Formerly the tincture of the chloride of iron was always used in the class of cases which he had described, and the good derived from it, he thought, was to be attributed not so much to the iron itself as to the muriatic ether and nitrous ether which the old tincture, particularly if it was not used for some months after its manufacture, always contained. Of late years, however, this agent had been much less used in such cases, and he believed that this was on account of the change in its character as prepared at present. This was due to the fact that the United States Pharmacopœia now insists that the nitric acid should all be driven off. The muriatic ether referred to seems to be always generated in the presence of a small quantity of nitric acid; and he thought it was because of this change in the preparation of tincture of chloride of iron that sweet spirits of ether is now so favorite a remedy in spasm of the bladder and neck of the bladder. As to the use of hyoscyamin by the mouth, he was glad to learn that it had been so successful in Dr. Gouley's hands. It was an extremely delicate alkaloid, and it seemed to him that it must be decomposed by the acid condition of the stomach. He would like to inquire whether Dr. Gouley had ever used it hypodermically. At the present time, when the old-fashioned straight-jacket had to a great extent been given up, hyoscyamin was the physiological straight-jacket of our insane asylums, and it was a fact that it is almost universally given by hypodermic injection as being the best and surest method.

Dr. Isaac E. Taylor, of New York, said that the cases which had come under his notice were principally those which were primarily due to nervous influences. There was one source of cystitis and contracture which he thought had not been alluded to in the paper—viz., ulceration of the urethra, This was generally so small in extent that it was more like a fissure, and hence it was very difficult to recognize. Vaginismus and fissure of the anus had often been treated for it. He then mentioned a striking instance of this trouble, in which the urethral ulceration escaped the attention of a large number of prominent physicians. When the patient first came under his care he supposed that she was suffering from some abnormal condition of the uterus, as there was marked vaginismus, and did not think of examining the anus or urethra. He afterwards found, however, that in the latter there was a small ulcer about one-third of an inch in diameter and not more than a

sixth of an inch in depth. As soon as this point was touched, and only then, there was a spasm of the vagina, as well as of the anus. He believed that many cases of supposed vaginismus were in reality instances of urethral ulcer. In the case he had mentioned, the patient passed a small quantity of urine about every twenty minutes, which caused her intense agony and rendered her life absolutely miserable. Dr. Taylor concluded his remarks with some reference to reflex action as concerned with the bladder.

Dr. Robert Newman, of New York, said that the paper opened up a wide scope for investigation. He agreed with Dr. Gouley that the causation could, as a rule, be readily traced, but in some cases it was very difficult, as, for instance, where it was dependent on obscure disease of the spinal cord. Another obscure source was pyelitis, which could only be definitely made out by conscientious microscopic examination of the epithelium found in the urine. In regard to the treatment, he thought this ought to be a little different in males and females. In acute cases he had found that the best local application was extract of belladonna in the form of suppositories placed in the vagina in females and in the rectum in the case of males. A large amount of the drug could be borne in this way without doing injury, as was shown by one case in his practice in which a suppository containing five grains of the extract had been used, the druggist having put five grains in one suppository, instead of into five, as he had ordered in his prescription. The case, which was an unusually severe one, was, however, at once completely relieved, and no bad results followed the large amount of belladonna used. The hydraulic employment of warm water worked very well in acute cases in males. Of internal remedies, he believed that extract of cannabis indica was better than anything else. In chronic cases in females, the washing out and dilatation of the bladder gave a great deal of relief. The use of hot water and extract of belladonna locally constituted his great reliance. Dr. Newman then referred to the impairment of innervation giving rise to partial and complete paralysis of the bladder.

Dr. Van Wyck, of Dutchess County, stated that last summer he had had in his practice three cases of cystitis which were due entirely to malarial origin, and which were treated successfully with quinine and other remedies appropriate to malarial trouble.

Dr. Rushmore, of Brooklyn, said that the general practitioner was constantly meeting with cases of irritable bladder in very young children, and thought that the correct explanation of this had been given by Dr. Gouley in speaking of polyuria. It was the effect of the large quantity of fluid, with low specific gravity. Thus it was found that simple warm water would irritate the mucous membrane of the throat and nose when inflamed; but if salt was added to the water its effect was beneficial. He then mentioned the case of an old lady who suffered from polyuria in consequence of mental anxiety, and this brought on an irritable condition of the bladder. In many of the obscure cases of vesical trouble, he thought light could be obtained by directing the attention to the kidneys.

Dr. Gouley, in answer to Dr. Squibb's question, replied that he had never as yet tried hyoscyamin hypodermically, but that he should certainly do so at the first opportunity. In regard to the tincture of chloride of iron, he had been under the impression that he had always been using the old-fashioned preparation, not having been aware of the change that had been made in its preparation. No doubt this would account for the unsatisfactory results which he had noticed in certain cases in which it was employed. He had always been in the habit of relying on the tincture of chloride of iron, and in other papers he had said he should scarcely be able to treat urinary diseases without it. He had often used the sweet spirits of nitre, but generally rather sparingly, because he thought it was not advisable to employ such irritants in cases in which the kidneys were likely to be already involved. Pyelitis was extremely common in this connection, and it took very little to give rise to severe pyonephritis in cases of chronic disease of the urinary organs. Dr. Taylor had alluded to ulceration of the urethra. The President would probably recollect that some ten years ago he had read a paper in Brooklyn (before the Kings County Society) on cystitis; and in this he had called attention to certain lesions of the female organs which had never before been mentioned. Among these were fissure and slight ulceration of the urethra. As to ulceration of the bladder itself, Dr. Gouley said he would defy any one to show him a case of it He believed that it might perhaps occur once in a vast number of cases, but he had looked for one instance of it in the dead-house for years in vain. If simple denudation of the mucous membrane were regarded as ulceration, of course this was sufficiently common; but in the denudation the trouble began and ended. Practically, true ulceration did not exist, and the only case in which there was anything like an approach to it which he had ever seen was one in which there was a mass of granulations around a button which had gotten into the bladder.

In regard to the endoscope (to which Dr. Newman had incidentally alluded), he remarked that he never used the instrument now. He had formerly resorted to it occasionally, but he found that he could get along decidedly better without it. As to paralysis of the bladder, he thought the opinion of the profession was very much mixed up. When there was paralysis, he believed that the whole bladder was paralyzed, and if so, that there must necessarily be incontinence, and not retention, of urine. He was glad that Dr. Van Wyck had referred to malaria in connection with cystitis. The explanation of their connection was very easy, for in the trouble which we called malarial fever there was invariably found lithæmia to a most pronounced extent. The uric acid in the urine irritated the bladder mechanically, and sometimes it was in such excess that uric acid calculi were formed in the kidney itself. He was also glad to find that Dr. Rushmore agreed with him as to polyuria being a frequent cause of cystitis. This is more often the case in young subjects than in the aged.

Dr. Austin Flint presented a specimen from

A CASE OF ANEURISM OF THE ARCH OF THE AORTA PRESENTING UNUSUAL DIFFICULTIES IN DIAGNOSIS.

If it had been an ordinary case, he said he would not have ventured to take up the time of the Association in calling attention to it. The patient was a gentleman 45 or 50 years of age, as well as he could remember,

and he had seen him in consultation with Drs. Speir and Little, of Brooklyn, by whose courtesy he was enabled to present the specimen on this occasion. When he saw him he had some difficulty of respiration, but this was not very marked at that time. There was, however, distinct stridor; though a careful examination with the laryngoscope by the late Dr. Elsberg had failed to detect any abnormal condition within the range of that instrument. On examining the chest, it was found that the respiratory murmur was notably feeble on both sides, and a little weaker on the left than on the right. Nothing else was discovered to show that there was any affection of the lungs. A careful examination was made for the presence of an aneurismal tumor, but none was found, and there was no pulsation disconnected with the apex-beat of the heart. There was no adventitious sound anywhere about the heart, and Dr. Flint did not satisfy himself that there was any abnormal dulness on percussion. There was no aphonia.

The probable diagnosis of aneurism was assumed from the evidence of obstruction in breathing, as shown by the stridor, and weakened respiratory murmur. There was also additional evidence of aneurism in the disappearance of the radial pulse, and the pulsation of the carotid artery on the left side during certain paroxysms, presently to be spoken of. While Dr. Flint and the other physicians were still in consultation on the case, after the examination, they were summoned to the next room to see the patient, who was then suffering from a paroxysm similar to others from which he had frequently suffered. The respiration was extremely embarrassed, the obstruction to inspiration being more marked than that to expiration, and it seemed for the time as if he was really about to die. In half an hour, however, he was relieved; although he did die in another paroxysm that occurred within thirty-six hours afterward.

It seemed pretty clear from the nature of these paroxysms that the trouble present involved the transverse portion of the arch of the aorta with the recurrent laryngeal nerve. Coming to consider the morbid appearances in connection with the symptoms during life, it was found that the whole of the ascending, transverse, and descending portions of the arch of the aorta were markedly enlarged; while there was atheroma present, with distinct calcareous flakes. Yet, what was quite remarkable, there had never been any bruit heard during life by any physician who ever made an examination of the case; and it was not at all clear why it should have been absent. It would have seemed that there were just the conditions present for the causation of a loud bellows murmur. For the absence of the radial and carotid pulse during the paroxysms, the unusual distention of the aorta, and the consequent pressure on the left subclavian and carotid arteries were sufficient to account. Finally, there was a pocket, half an inch in diameter, which protruded directly into the trachea, and must have caused, of course, more or less obstruction to respiration.

An interesting point in connection with the case was the probable causation of the paroxysms of intense dyspnœa, during one of which the patient died. It was evident that if life had been prolonged the aneurism would have made its way into the trachea, and eventually have ruptured, with a fatal issue. Dr. Flint thought there was no question that the paroxysms were due to the effect of pressure on the recurrent laryngeal nerve; but was the urgent dyspnœa the result of paralysis of this nerve, or of spasm of the glottis? Some years ago, he had reported a case in which death was probably due to spasm of the abductor muscles of the glottis; but of late, he had been led to doubt the correctness of this hypothesis, and to believe that the fatal result was due to the opposite condition, paralysis. It was more rational to suppose, he thought, that pressure on the recurrent laryngeal nerve would give rise to paralysis rather than spasm.

Another point, a recent writer had claimed that in any case, like the present, in which the obstruction was more marked in inspiration than in expiration, the difficulty was certainly due to paralysis. These paroxysms had occurred, as a rule, at times when the patient was excited in any way, as in talking earnestly or laughing heartily. A quèstion of interest, in connection with paralysis of the abductor muscles of the glottis, was, Is such a paralysis on one side sufficient to cause death? It seemed to him probable that this was not the case; but where one side was affected there was a strong liability, through some sort of sympathetic or reflex action the exact nature of which was unknown, of the paralysis becoming bilateral.

Dr. A. Flint, Jr., remarked that this case opened a field of physiological inquiry of great interest. He had often observed the effect of dividing the recurrent laryngeal nerves on the two sides successively in animals, particularly cats, while the spinal accessory nerves were left intact. When one of the recurrent laryngeal nerves had been cut, there was generally very considerable difficulty in inspiration; and when both were cut, the animal soon died. He imagined that the grasp of a hand on the throat did not cause obstruction to respiration by compression of the trachea, but rather by pressure on the recurrent laryngeal nerves, which prevented the occurrence of the movements of the larynx seen in respiration. If there had been any permanent pressure on the recurrent laryngeal in this case, he believed there would have been huskiness or some other alteration of the voice at all times; but if the pressure was occasional, such paroxysms as had been noted would be very likely to result, and he could understand from the experiments that he had made on animals how these paroxysms might be so severe as to threaten, or even actually cause death. During perfectly tranquil respiration, the larynx was almost entirely passive, there being no muscular contraction of any account required to open the glottis; but if the respiration became labored from any cause, the muscular contraction at once became very marked. Pressure on the recurrent laryngeal, it seemed to him, would be likely to cause interruption of the function of that nerve, rather than spasm.

Dr. C. A. Leale, of New York, related a case which seemed to him to illustrate well the difficulties of diagnosis in such troubles. Some years ago, a gentleman who experienced great difficulty in respiration, and in whose case a large number of competent physicians had made careful examinations without being able to arrive at any positive conclusion as to its exact nature, suddenly died. Dr. Leale made the autopsy, when it was found that there was a small aneurism of the arch

of the aorta which had ruptured into the trachea in exactly the position occupied by the pocket of the aneurismal sac in this case.

Dr. Little, of Brooklyn, who had attended the case in connection with Dr. Speir, said that the exact age of the patient was 43, and that Dr. Flint had been quite right in stating that during the paroxysms the difficulty of inspiration was greater than that of expiration. At other times, as it seemed to him, the reverse of this was true.

Dr. E. R. Squibb, of Brooklyn, read a paper on

OLEATE OF COCAINE.

The decided effect of muriate of cocaine as a local anæsthetic to mucous membrane, he said, at once suggested that it might also prove useful as a local anæsthetic to the skin. The published results of the trial of the aqueous solution for this purpose were, however, very discrepitant, and, as a rule, exceedingly unsatisfactory. The chief difficulty in its successful application seemed to be the difference between the epidermis and the epithelium of mucous membrane, and the impermeability of the former; the property of the epithelium being to promote rapid absorption, and that of the epidermis just the opposite of this. Now there was no possibility of finding a liquid which would pass through the epidermis with the same rapidity as the watery solution through the epithelium; but it had occurred to him that if a preparation could be obtained which could pass one-seventh as fast, and if it were made seven times as strong, the conditions would seem to be met for making as successful application of cocaine to the skin as to the mucous membrane at present.

Having referred to the history and applications of the pharmaceutical preparations known as oleates since their first mention by John Marshall, F.R.S., in a lecture in 1872, he said that ever since the discovery of the powerful anæsthetic action of cocaine on mucous membrane he had desired to make an oleate of it; but on account of the scarcity of the drug, he had not been able to make any experiments with this in view until the 1st of February, 1885. He then gave an account of the various steps by which he had arrived at what he believed to be the best preparation for use, viz., one containing 25 per cent. of cocaine in an excess of oleic acid; which was just about seven times the strength of the ordinary 4 per cent. aqueous solution sold in the shops. It was a very expensive preparation, costing six dollars a fluid-drachm, but it was necessary to use only a very small quantity, hardly more than a drop or two being required at a time.

Dr. Squibb next narrated a considerable number of experiments which he had employed to test the anæsthetic power of the oleate when applied to the skin. The conclusion thus reached, he regretted to say, was that the hope which had been entertained, that cocaine employed in this way might prove a useful anæsthetic for the skin, had been completely disappointed. Except for certain special applications, as to the glans penis, anus, etc., and possibly for the relief of trigminal neuralgia, in which it had not yet been tried, the oleate of cocaine had to be pronounced a useless preparation. He concluded by a few remarks in regard to the oleates in general, which he regarded as a direct combination of the ingredients employed rather than the result of a double composition, as had been widely promulgated.

The President said that he was sure that all would sympathize with him in the feeling of disappointment that the oleate of cocaine was not likely to prove of service, as had just been announced by Dr. Squibb.

Dr. Gouley related a case of excision of a fatty tumor of the thigh in which he had applied the 4 per cent. aqueous solution of cocaine to the skin ten minutes before the operation, and also injected ten minims into the tumor itself. He was disappointed in its effects, however, as the operation was by no means a painless one.

Dr. Squibb repeated, at the request of Dr. Gouley, his ideas of the physiological action of cocaine as an anæsthetic to mucous membrane, as expressed in the January number of his *Ephemeris*, according to which the local anæsthesia is probably a mechanical effect resulting from the contraction of the small vessels of the terminal bulbs of the sensitive nerves.

Dr. A. Flint, Jr., said that experiments with regard to the rate of conduction of motor nerves were very common, while those made for testing the rate of conduction of sensory nerves were quite rare. It would be exceedingly interesting, he thought, to denude sensory nerves in their course in animals, and observe the effect of the application to them of such agents as cocaine. The fibres of sensory nerves supplying the skin went either to the hair-follicles, or became united with the amorphous structure of the skin; and this might, perhaps, explain the difference of effect which cocaine had when applied to the skin from that which it had on mucous membrane.

PROPOSED SCHEME OF LIFE INSURANCE.

Dr. Gouley moved the adoption of a resolution which had been sent to him by Dr. Buckley, of the Fourth or Western Branch Association, to the effect that the Council of the New York State Medical Association should be requested to appoint a committee to take into consideration the establishment of a life insurance system in the Association, and report at the annual meeting in November. The resolution was adopted, and the Association then adjourned.

CINCINNATI ACADEMY OF MEDICINE.

Stated Meeting, February 2, 1885.

The President, W. H. Wenning, M.D., in the Chair.

Dr. J. L. Cleveland opened a discussion on

MEASLES AND ITS COMPLICATIONS,

by remarking that, although sporadic cases of measles unquestionably occur, the disease usually appears as an epidemic. This fact he illustrated by referring to the statistics of the disease in Philadelphia, as given in the text-book of Meigs and Pepper. It is there shown that during a period of ten years, there were 2279 deaths from that disease; during the next succeeding five years, no deaths were reported, and during a period of eleven years after that, there were but 100 deaths. During another period of two years, there were 200 deaths.

He passed briefly over the symptoms and course of the disease. Measles, he said, is easily recognized from its peculiar symptoms, which may be briefly summarized thus: After a period of incubation of about two weeks' duration, the affection begins simply as a bad cold, suffusion of the eyes, and a free discharge from the Schneiderian mucous membrane. Then there is a period of invasion, continuing about three or four days, in which all these symptoms continue. The disease may come on more rapidly, or it may be delayed for a longer period, even, he thought, as long as ten days, before the eruption makes its appearance.

When the eruption appears, it usually first develops on the head and neck, then upon the trunk, and, lastly, upon the extremities, requiring about forty-eight to seventy-two hours for its spread. This rule, too, has its exceptions, for the eruption may appear first upon the extremities or trunk. The fever of the stage of invasion is often acute, and it may be intermittent, or at least remittent in its character. This fever continues until the second or third day of the eruption, and then rapidly declines. The eruption usually continues from two to four days, and then fades away in the order of its appearance. After the disappearance of the eruption comes the period of desquamation, which ordinarily is of little significance.

Measles, the speaker continued, is a disease which is considered, and especially by the laity, of very little importance. It was probable that where the statistics to which he had referred indicated a total absence of the disease from the city of Philadelphia for so long a period as five years, the disease had been present, but in so mild a form as not to cause any mortality. The malignancy of measles depends upon several conditions, but chiefly upon the complications. It is unusual, and indeed rare, to have a death occur simply as a result of measles. The most frequent of the complications, and that which causes the greatest mortality, is bronchitis or pneumonia. The present epidemic which has been passing over this city, he said, is the most severe that has occurred for many years; and in his own practice, he had seen more severe cases than at any previous time. He had observed nearly all the complications of the disease that are mentioned in the books. He had lost a case or two from broncho-pneumonia; in one case, he had seen severe convulsions, but these occurred in a child that was unusually susceptible to convulsive manifestations in even slight ailments, as is usually the case where convulsions occur in the course of this disease.

He then reported a case which, he said, was unique, in that the child died from the virulence of the poison before the eruption had made its appearance. He would have been reluctant to call the case one of measles had there not been other cases of the disease in the family at the time. The symptoms were much the same as those seen in "foudroyant" cases of scarlatina, namely, high fever, suffusion of the eyes, irritation of the Schneiderian membrane, bronchial irritation, but no eruption. The speaker had seen reported cases of measles that terminated in recovery without the appearance of an eruption, but thus far he had not heard of a fatal case of that character. During the present epidemic, he had also observed a petechial eruption, but instead of this proving a serious complication as he had been taught to consider it, he had found the cases in which it occurred rather below the average in severity. Finally, he had seen a case in which there were severe complications upon the part of the kidneys. This complication, he believed, would be found more common than is usually supposed, if more care were taken to examine the urine. This patient voided urine heavily laden with albumen, and there was considerable puffiness of the lower eyelids.

Dr. F. Forchheimer remarked that he had never seen a more virulent epidemic than the present one. During the present epidemic, too, he had had illustrated better than ever before the difference in the results corresponding to the difference in the material with which he had to deal. This was especially manifested in his practice at the Hospital for Sick Children. An epidemic had broken out there soon after the disease made its appearance in the city. In this local epidemic, there had been one very interesting case, namely, one in which the disease was associated with cerebro-spinal meningitis. The child was brought to the hospital with high fever, and all the symptoms, in short, of that disease, even the petechiæ; and for this reason it was put into the general ward, in order that it might get more easily the constant attention which it required. After it had been in the house two days, another eruption was observed. This began on its face and neck. This was promptly pronounced measles, and the child was at once removed to the ward where other cases of the same disease were being treated. The autopsy verified the diagnosis of cerebro-spinal meningitis, although there was nothing to verify the diagnosis of measles. But this was soon verified in another manner. On one side of this child, when first admitted to the ward down-stairs, there lay a child with chronic hydrocephalus; on the other side, a child with phthisis. Ten days after that on which this child was admitted and placed beside them, both these children began to cough and sneeze, and both broke out with the measles. Both died of catarrhal pneumonia. In the hospital there had occurred seventeen cases, and of these, nine died. The high mortality the speaker attributed to the fact that the patients attacked in this instance were children previously debilitated by other sickness. One case had undergone a surgical operation, and the wound was still suppurating; another patient had croupous pneumonia; and still another was brought into the hospital in a moribund condition. It need hardly be added that the experience of the speaker in his private practice had not been so bad.

The occurrence of catarrhal pneumonia, he said, had been more frequent in the present epidemic than in any with which he had ever been concerned, but, as the last speaker had said, he, too, had observed nearly all the complications mentioned in the text-books. In regard to the prognosis in the petechial form of the disease, he differed from the former speaker, for he had never found it an index to a severe case; on the contrary, he looked upon the appearance of such an eruption as an indication that the case would run a rather mild course. He thought it more correct to base the prognosis upon the material with which one had to deal, rather than upon differences in the form of the disease. In no other form of exanthema have we so many cases in which the petechial eruption occurs. Its appearance

also is sometimes due to peculiarities in the subject that is attacked, and not to any difference in the form of the disease.

He differed in his opinion from the statement made by so many authors in regard to the extreme rarity of a second attack of measles. During the present epidemic, he had seen several cases of a second attack, in which he was positive of the fact, because the previous attack had been under his own observation, and there could have been no mistake. He was sure that the previous attacks had not been German or French measles, but the ordinary form of the disease.

Another peculiarity of this epidemic, he said further, is its long duration. The usual duration of an epidemic is two or three months; his first case occurred five months ago, and he is still receiving new cases. The mortality has also been above the average mortality, namely, four or five per cent. It will be impossible, however, to get a correct mortality report of the present epidemic, because many cases are reported by our Board of Health as dying from complications, without mention of the real cause. One week, for example, the report showed a mortality of but two in the entire city, when there had been more than that number of deaths in the children's hospital alone. He thought it possible that the entire absence of the disease from Philadelphia for five years might be in part due to the same cause.

DR. J. T. WHITTAKER said that it is remarkable that, although measles is the most common and widespread of all diseases, we are as yet ignorant of its cause. Numerous investigations have been made of the excretions, the exhalations, and the skin, and yet we remain unacquainted with the cause. We get the best idea of the universality of the disease from the statement of a German author, that if measles were as fatal as cholera, the human race would be extinct. The Faroe Islands, the speaker said, had been a good place to study the disease. Up to the year 1781, measles had never appeared on the islands; it was then carried there by a traveller, and nearly five-sixths of the inhabitants of the islands were attacked. The distress occasioned by such an epidemic could be easily imagined. Again in 1846, the disease appeared after an entire absence for sixty-five years, and it then attacked all the old people who had not been attacked during the previous epidemic, together with pretty much all the younger inhabitants. The isolation of these islands enabled Panum to fix the period of incubation accurately at fourteen days.

In the investigation of the cause of the disease, the speaker referred to the experiments of Home and Mayo with the skin and nasal mucus, and to those of Braidwood and Vacher, who claimed that the poison was carried chiefly by the exhaled air. They claimed that they found micrococci on glycerine-coated glass-slides, the same as they found in the lungs on post-mortem examinations, but no one has yet succeeded in cultivating the germs; and there is, therefore, no proof that they have as yet discovered the true microörganism of the disease.

The speaker had never observed a prodromatous stage of so long duration as mentioned by the reporter, and was of the opinion that this period in these cases had been confused with or made to include also the period of incubation. Four days is put down as the period of invasion, and from this fact alone we are often able to make a differential diagnosis between measles, scarlatina, and variola.

He had never observed a second attack of measles, and expressed grave doubt whether such an anomaly ever occurred. His confidence in this opinion was strengthened, he said, by the statements of the best authors and most extensive observers, who almost without exception state that a second attack never occurs. Panum, Willan, and Rosenstein state that they have never seen a second attack. He knew that if the last speaker said that he had seen a second case in the same individual, and was positive that he had treated the individual in previous attaks, there could be no question as to the truth of the statement and the correctness of the diagnosis; but the second cases which he had seen himself had all proved to be cases in which the former attack had been German measles, erythemata, roseolæ, variola, or other simple eruptions following attacks of disordered digestion.

In regard to the high mortality reported by the last speaker, approximating fifty per cent., he said that he should himself desire to look pretty closely into the sanitary condition of the institution where the cases occurred, as he thought there might be found something in addition to the complications spoken of to cause a death-rate as appalling as that of cholera.

One of the complications of measles not commonly noted, he said, is asthma. Many cases of asthma date from measles. A scientific explanation of this fact has been but recently given, in that the bronchial glands are often found enlarged, so that they may cause pressure upon the vagus nerve and thus induce the disease. This discovery would also assist in explaining the excellent results of the favorite remedy for asthma, namely, the iodide of potassium, with its well-known properties of inducing absorption in these glands.

DR. FORCHHEIMER, in reply, remarked that it is a well-known experience in public institutions of all sorts that the mortality of measles runs very high. He added, further, that the presanitary mortality which he had just reported was lower than the mortality from the same disease in other institutions of the city. There is not a public institution in the city that has not lost more cases of measles than the Children's Hospital. He admitted that sanitary surroundings have a great deal to do with the mortality from this disease; and he admitted that there were sanitary defects in the institution with which he was connnected, the building being only a temporary one, not constructed for the purpose of a hospital; but these sanitary defects, like the mortality itself, were no greater than in any institution of the city. He considered it not a matter to elicit wonder or comment, that the children he reported should have succumbed to the disease when it is remembered that they were suffering from such serious maladies as cerebro-spinal meningitis and tuberculosis.

DR. JOSEPH RANSOHOFF narrated a case in which he was called upon to perform a tracheotomy for the relief of severe dyspnœa, which appeared in consequence of diphtheria as a complication of measles. He was not conversant with the previous history of the case, but was of the opinion that the child, about two years of age, had just passed through an attack of measles of moderate severity, and without any very alarming symp-

toms until the dyspnœa supervened, about sixteen or seventeen days after the inception of the disease. When he first looked at the child, it was suffering from the most marked dyspnœa, with all the evidences of laryngeal stenosis, namely, cyanosis, sinking in of the suprasternal notch, etc. The child was comatose. The pulse did not, however, indicate approaching dissolution, for it had a fair volume, and ranged from about 160 to 180 per minute, so that he did not think that the coma was due entirely to the dyspnœa. In addition to the dyspnœa and accompanying aphonia, the child presented all the appearances of a tubercular meningitis. It lay with its head away back, burrowed in the pillow; its temperature was 103½°; the pupils were much dilated, and reacting rather irregularly to light. The tracheotomy was, however, made in the hope that the immediate symptoms of dyspnœa being relieved, the other alarming manifestations might subside. Not a particle of membrane, or other foreign matter, was found below the incision, except a little mucus, and that was untinged with blood. The child breathed better at once, and the sinking in of the epigastrium was relieved. It did not, however, regain consciousness, and died in about twenty-four or twenty-six hours after the operation. No good had been accomplished except to relieve this dyspnœa.

He stated that he had been called to see a case only a few days since in which there was a diphtheritic membrane in the throat, but in which the symptoms were not severe enough to warrant the resort to tracheotomy. In connection with the case in which he had performed the operation, he desired to ask the Academy whether a tubercular deposit in the lungs could be alone sufficient to cause a dyspnœa resembling that accompanying a diphtheritic deposit in the larynx.

Dr. R. Stewart reported a number of cases that had occurred in his practice. Catarrhal pneumonia had occurred in about forty per cent. of the cases that he had treated during the present epidemic; in two he had observed enlargement of the bronchial glands; in one case he thought that he was about to have diphtheria, on account of the exacerbation of temperature, reaching 104°, with enlargement of the cervical lymphatic glands; a complaint of pain in the throat, with the peculiar dark-redness of the mucous membrane; and a whitish patch, running across from one tonsil to the pharynx, that looked like the commencement of a membrane. But under the local application of the oil of eucalyptus in alcohol, and large doses of the tincture of the chloride of iron internally, the alarming symptoms subsided. He did not think that he had aborted a case of diphtheria, but suggested the possibility that a great number of cases of diphtheria which are supposed to complicate measles are in reality simply such cases as the one he had reported.

In one case, the speaker had observed all the premonitory symptoms, without exception; but when the time came for the eruption to appear, he could find only a few small spots on the face. The day following, he found on the left cheek about a dozen petechiæ. The case proved a mild one.

Two cases were in adults; in one of them the premonitory symptoms were complete, but no eruption appeared. In the other, the disease went through its various stages, and was accompanied by a very severe bronchitis. The speaker lost one case from catarrhal pneumonia. This occurred in a child one year old, belonging to a phthisical family. The hygienic surroundings were bad, and the pneumonia proved fatal within forty-eight hours after he first saw the case. The child had had measles, but the speaker did not see the case during the presence of the eruption, but only when the pneumonia was well pronounced, the temperature at time of his first visit being 107° in rectum.

In conclusion, he reported two cases which resembled the one reported by Dr. Ransohoff. Both of them had symptoms of laryngismus stridulus, concomitant with those of catarrhal pneumonia. There was hoarse, barking cough, and aphonia, with marked cyanosis. In one case, just as the child was dying, a tracheotomy was performed, with the idea of possibly affording some relief. The post-mortem examination revealed well-marked catarrhal pneumonia, but no membrane; nor, indeed, any redness of the tracheal mucous membrane.

In the other case, no tracheal redness was found post-mortem, but catarrhal pneumonia was well marked.

Dr. Whittaker said that it was strange to hear of two cases of measles in which tracheotomy had been performed and nothing found in the trachea. He fully agreed with the previous speaker as to the rarity of diphtheria as a complication of measles; he had never seen it. Common as it is in scarlatina, so rare it is in measles. Laryngismus stridulus is, however, much more common. Sometimes we can discover the cause of the complication; sometimes we can find a punctate or diffuse eruption somewhere on the laryngeal folds. If it should attack the inter-arytenoid fold, it might easily cause laryngismus stridulus. The laryngoscope would reveal these spots. Although these cases are thus not pure neuroses, all that he had ever seen had been relieved by the administration of emetics.

In regard to the appearance of Bright's disease in the course of measles, he thought it going too far to consider every case of albuminuria a case of that affection, since a transitory albuminuria is likely to occur in every case of fever. The nephritis of scarlet fever is really a post-scarlatinal process. He would also look with great suspicion on a case of measles occurring in the course of a cerebro-spinal meningitis; and he would prefer to consider it a case of measles primarily, with the meningitis occurring as a complication of that disease. He would not base the diagnosis merely upon post-mortem appearances, since both are acute infectious diseases with the same localization, and would hence have many lesions in common. He thought it better to rest it upon the symptoms that were observed. Fatal cases in which the eruption does not appear, he said, have been observed in all the acute infectious diseases, and grave or malignant cases are prone to show an early meningitis.

In reply to the question, "What would you do in a case of marked dyspnœa in which emetics did no good?" the speaker said that it would be just as possible for a child to die from laryngismus stridulus as from asthma. He did not think, in other words, that the symptoms could last long enough to produce death. They were alarming, but they alarmed the parents rather than the physician. The dyspnœa in these cases depended upon catarrhal pneumonia, and not upon laryngitis. The

laryngeal spasm in these cases is largely neurotic. He might administer an anæsthetic.

Dr. Ransohoff remarked that the theory of carbonic acid intoxication was a very nice one, but that he had seen two or three cases of asthma die during or immediately after the paroxysm. In the case he had reported he was positive that there was no catarrhal pneumonia; there had been no history of a catarrhal pneumonia, and the symptoms when he saw the patient were not those of that disease. There was evidently some obstruction in the larynx, and it was on this account that he had performed the operation. Laryngismus stridulus had been thought of, but it did not appear like a case of that nature; for if coma reduces muscular spasm, why was the spasm not relieved in this case? The child had been comatose for two days, but there was no sign of relaxation. The tracheotomy relieved the dyspnœa, and he was satisfied that it did not shorten life. The operation of tracheotomy he considered entirely devoid of danger, the deaths occurring only from complications. The fact that there was no membrane below the opening, was not evidence that there was none above that point, and, in fact, a slight vestige of diphtheritic deposit was apparent in the throat.

Dr. Forchheimer remarked that the term laryngismus stridulus meant a great many things. He had invariably applied it to the purely nervous affection, carefully excluding all cases of so-called false croup in which there is a marked catarrhal condition of the mucous membrane. In cases of the latter disease, he would not hesitate to open the larynx. It is a disease of comparatively no importance, but cases do die from it and from the dyspnœa that it produces. In regard to the nervous form, he thought that tracheotomy was sometimes imperative in it also, in order to remove the dyspnœa and the irritation of the lungs which it produces.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Stated Meeting, February 5, 1885.

The President, B. F. Baer, M.D., in the Chair.

OVARIAN CYSTS.

Dr. Baer exhibited two ovarian cysts. Mrs. B., widow, entered his private hospital December 18, 1884. She commenced eight months before to suffer from frequent calls for micturition with severe scalding pains, symptoms apparently of cystitis and urethritis. The uterus and ovaries were in good position and seemed normal, but two weeks later there was a burning pain in both ovarian regions with a perceptible bulging, largest on the right side. The menses had ceased, and the doctor in attendance suspected pregnancy, but exposure was denied at that time. The abdomen enlarged rapidly, and the patient finally acknowlenged the possibility of pregnancy, and thought she felt movements of the fœtus. At seven months uterine hemorrhages commenced, and continued every day; the mammæ were atrophied; there were no signs of the presence of a fœtus; there was some fluctuation; the sound was passed and the uterus was found empty and not enlarged; the face was wasted and had an anxious expression, and the pulse was quick. A diagnosis of ovarian cyst was now made. A deep diagonal sulcus could be made out in the abdominal tumor, the largest portion being on the right side. The surface of the tumor was smooth and without nodules. The cervix was soft, patulous, high up, and drawn to the left. When the tumor was moved the uterus moved with it, as shown by the handle of the sound. Immediate operation was advised and performed. Incision three and a quarter inches, two large tumors were revealed, both were tapped; the left which was free from adhesion was withdrawn without difficulty, its pedicle transfixed, ligated, and dropped. The larger tumor, although free from abdominal adhesions, could not be drawn out, and it was found to be very tightly adherent to the uterus, which seemed to be one mass with it. As the fluid drawn from this tumor was clear, it is not improbable that it was a cyst of the broad ligament. It became necessary to enucleate the cyst, and a long gaping wound was left in the broad ligament; this was transfixed and tied as a pedicle, but after the final division had been made the ligature slipped and the hemorrhage was immense; ten hæmostatic forceps were applied temporarily, and the bleeding points were firmly secured. The wound of the broad ligament was closed by ten interrupted sutures. The operation lasted two and a half hours; the patient collapsed, and he feared she would die on the table; but she reacted and recovery was uninterrupted, the patient sat up in two weeks. An incident which occurred on the fourth day shows the necessity of the proximity of a physician or thoughtful nurse. A scream from the patient, an announcement of a sudden pain on the right side, and the patient said something seemed pulling inside of her. Dr. Baer was near and was called; he feared internal hemorrhage, but at once inquired how long it had been since she had passed water—four hours—the catheter was immediately used and complete relief was secured. After this the catheter was not required until the tenth day, but from the tenth to the twentieth day there was entire inability to pass water except by assistance of the catheter. She went home on the twenty-third day.

The points of special interest in this case are:

1st. The patient being entirely well, symptoms of gonorrhœa presented themselves, and were followed by

2d, amenorrhœa for seven months, followed by

3d, daily hemorrhages for one and a half months.

4th. Ovaritis and large tumors forming in eight and a half months from the initial symptoms.

Dr. Beates mentioned the case of a young lady who was obliged to separate from her husband one month after marriage in consequence of domestic trouble; her menses continued regular, but her abdomen enlarged as rapidly as if she were pregnant; her health failed, and at the expiration of nine months an ovarian tumor was removed; recovery was complete and rapid.

In another case he found numerous omental and enteric adhesions which were easily separated, but pelvic adhesions required enucleation of the cyst, which left a large V-shaped wound in the broad ligament as described by Dr. Baer. Hemorrhage was very free; in trying to dissect off the tumor from the fundus of the uterus, that organ was badly wounded; the cavity was opened, and required to be closed by sutures. Great tympany followed this operation, and breathing became almost impossible; the patient recovered.

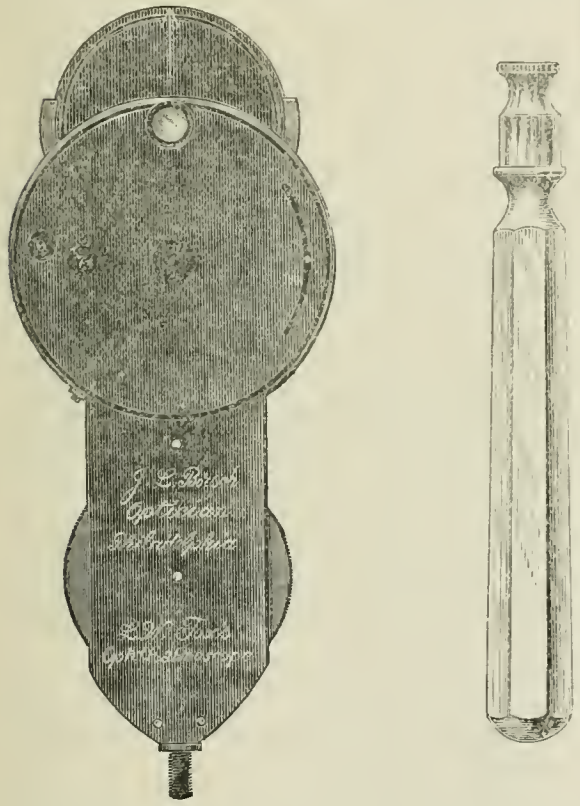
NEW INVENTIONS.

AN IMPROVED REFRACTION OPHTHALMOSCOPE.

By L. WEBSTER FOX, M.D.,

OPHTHALMIC SURGEON, GERMANTOWN HOSPITAL; LATE CLINICAL ASSISTANT, MOORFIELD'S EYE HOSPITAL, LONDON, ETC.

This instrument is a modification of an ophthalmoscope which we designed in 1880 while at Moorfield's Eye Hospital. The size and weight having been reduced about one-third, makes it now an instrument of beautiful design and complete workmanship. The illustration below represents its full size. The main features of this instrument are the toothed-wheel mechanism, the short focal length of mirror for direct examination, and the large combination of lenses. It has two mirrors, with focal lengths of eight centimetres and twenty centimetres respectively. The mirrors are



set obliquely, and can be rotated to any angle, an advantage when the instrument is used in a sick-room or the wards of a hospital. By direct examination, the rays of light from the short focal mirror are crossed in the lens of the patient's eye, consequently, we do not have an inverted image of the lamp on the retina, but an evenly diffused circle of illumination. An arrow on the back of the mirror indicates the angle at which it should be set, which we have found to be about twenty degrees above the horizontal; this throws the handle away from the patient's face to admit a free movement of the index wheel, an advantage which ordinary ophthalmoscopes do not possess. The arrow points towards the lamp when the mirror is set properly.

In high degrees of myopia (above twenty dioptrics), owing to the fact that the area illuminated becomes greater, due to the length of the eyeball, the illumination becomes fainter; sufficient light is retained, however, to see the most minute pathological change; this may be wholly overcome by shortening the distance between lamp and mirror, and if greater intensity of light is desired, the twenty centimetre mirror can be substituted. We would call especial attention to the great advantage of the short focal mirror in the examination of morbid changes in the retina and choroid, also to the examination of lens and cornea. The long focal mirror is useful for indirect examination and retinoscopy.

The disk, which has a diameter of forty-two millimetres, has twenty-two apertures, admitting ten convex and eleven concave lenses, added to this is a crescentic slide with five apertures containing four lenses. By combination, the following range of glasses may be obtained: +0.5, 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7, 7.5, 8, 8.5, 9, 9.5, 10, 10.5, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22; and —0.5, 1, 1.5, 2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7, 7.5, 8, 8.5, 9, 9.5, 10, 10.5, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 35.

The lenses are brought forward by the toothed wheel system: one wheel is set on the disk, a second between this, and the third (or finger-wheel) lowest of all. They are all enclosed, only the milled edge of the third projecting far enough to allow its being rotated by the index-finger. Each lens is centred accurately with the hole in the mirror by a spring action, having its point of pressure on the peripheral edge of the primary disk. The disks and cap are held in place by screws; by removing them, all can be taken apart when necessary. The instrument is well balanced by a good-sized ivory handle and packed in a small case. Each ophthalmoscope is accompanied by a large lens one and three-quarters inches in diameter, having a focal distance of two inches.

Messrs. Ferrier & Hawkins, of London, and J. L. Borsch, 1324 Walnut Street, Philadelphia, are the makers.

NEWS ITEMS.

Prevalence of Measles in New York City.—A report concerning the recent increase of measles in New York City was presented to the Board of Health, on Tuesday, by Chief Inspector James B. Taylor. The record for four months is as follows:

	Nov.	Dec.	Jan.	Feb	Total.
Cases	385	484	743	540	2152
Deaths	60	75	157	111	403

The record of the disease is made from the returns of physicians, and the cases are not always returned, unless the patients die. In one public institution containing 200 infants, there have been 157 cases of measles and 65 deaths in four months. Dr. Taylor's report contains the following:

Such a rate of mortality is almost unaccountable, and if the same rate prevailed elsewhere, it would prove

measles to be the most virulent of all contagious diseases. It has taken the lead over all the past two months. Even that greatly dreaded disease, diphtheria, has been left behind, as there have been from the latter 534 cases and 234 deaths during the same period, compared with 1283 cases and 263 deaths from measles. It is well known that measles is usually more fatal during the winter months, owing to the greater danger from the complications which are so certain to accompany it, such as bronchitis, pneumonia, and croup, and which only the greatest care can guard against. I recommend that the attention of physicians as well as citizens be directed to this excessive mortality, and that great care be exercised as regards isolating and careful nursing. At the present time, the disease seems to be extremely contagious. By a more careful isolation of the sick from the well, there is no doubt that its progress could at once be checked very materially.

University of Pennsylvania.—At the meeting of the Trustees of the University, held on Tuesday, Dr. Harrison Allen presented his resignation of the Chair of Physiology in the Medical Faculty.

At the same meeting, Dr. W. L. Zuill was elected to fill the newly created chair of Surgical Pathology, connected with the Veterinary Department.

Plans were approved for the erection of a building, to comprise stables and a hospital for the Veterinary Department. The plans, as at present drawn up, provide for a building 210 by 36 feet, with a ten-foot covered piazza. The masonry is of stone and red brick, and the estimated cost in the neighborhood of $20,000. It includes a library, armory, pharmacy, stalls, a large horse-foot bath, and a round stall designed for insane horses. The proposed floors are to be of cement, and great attention is to be given, it is stated, to drainage.

Rush Medical College, Chicago.—The Annual Commencement of this institution was held on February 17th, and the degree of M.D. was conferred on 151 graduates. The whole number of students attending during the winter term was 401.

The Hospital Medical College of Evansville, Ind.—The Third Annual Commencement of the Hospital Medical College of Evansville was held February 27, 1885. The degree of M.D. was conferred on six candidates.

The New York Polyclinic has arranged to open a pathological and histological laboratory under the direction of Dr. F. S. Billings, whose connection with the laboratory of both Koch and Virchow for several years should adapt him admirably for the position. It is proposed to have two courses—one in pathological histology and morbid anatomy and a higher scientific course including bacillus culture.

Ex-Surgeon-General Wales.—Charges of inefficiency in performance, and neglect, of duty have been preferred by the Secretary of the Navy against ex-Surgeon-General Wales, of the Navy, and a court-martial has been detailed to try them. These charges have grown out of the recent trials for frauds in the Bureau of Medicine and Surgery.

State Board of Health of West Virginia.—Dr. James E. Reeves, of Wheeling, has just resigned the Secretaryship of the West Virginia State Board of Health, and his many friends will greatly regret to learn that the state of his health has compelled him to sever himself from this office with which he has been connected since the inception of the Board, and in which he has done such excellent work. His resignation is a loss to the State, and the Governor, in accepting it, recognizes this. As regards his earnest labors for the promotion of the public health and the elevation of the standard of the medical profession in the State, the Governor, in a letter, accepting his resignation, says: "You have devoted a large share of your valuable time, aided by a ripe experience, to medical and sanitary science. Your labors in conjunction with the other members of the Board have raised the standard of the profession to a higher plane than before attained by it, and through the operation of our health laws, placed the State on advanced ground in the development of sanitary science."

A Russian Translation of Dr. Weir Mitchell's admirable brochure on "Fat and Blood" has just been published in St. Petersburg.

The German Imperial Health Office.—Dr. Köhler has just been appointed Director of the Imperial Health Office at Berlin. According to the German journals, his appointment has elicited general satisfaction, and it is anticipated that under his direction the continued effective working of the office, with which the reputation of Dr. Koch is so intimately connected, will be continued.

Dr. Koch.—It is announced that a Chair of Hygiene is to be established in the Berlin Medical Faculty, to which Dr. R. Koch will be appointed. It is also intended by the Government to establish full Professorships of Hygiene in the other Prussian universities, the only one that at present has such a professorship being the University of Göttingen.

Prof. Lucae died recently at Frankfort-on-the-Main. His anatomical and anthropological works achieved much for the advancement of science, and rendered his name widely known.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE WEEK ENDING FEBRUARY 28, 1885.

Purviance, George, *Surgeon*.—Granted leave of absence for one week, Feb. 24, 1885.

Kalloch, P. C., *Assistan Surgeon*.—When relieved, to proceed to Pittsburg, Pa., and assume charge, Feb. 27. 1885.

White, J. H., *Assistant Surgeon*.—To proceed to Savannah, Ga., and assume charge, Feb. 24, 1885.

The Medical News *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the News *should be addressed to No. 1004 Walnut Street, Philadelphia.*

THE MEDICAL NEWS.

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ORIGINAL LECTURES.

CHRONIC INTERSTITIAL NEPHRITIS (CONTRACTING KIDNEY).

A Clinical Lecture, delivered February 12, 1885.

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GENTLEMEN: The patient before us entered the hospital a few days ago. He was here also last May, in much the same condition, except that he has grown manifestly thinner and weaker, and has been a little delirious. When he first entered he had had some headache, vertigo, and dyspnœa, and complained of dimness of vision, which he attributed to cataract, having already had one removed. It was found, however, that the defect in sight arose from albuminuric retinitis. His urine was rather abundant, of low specific gravity, contained a small amount of albumen, and some hyaline and granular casts. The area of the heart's dulness was not absolutely beyond the normal limits, but was quite up to the extreme, and there was a systolic souffle to be heard at the base. There was no dropsy. The sphygmograph showed a tracing with a moderately strong up-stroke, a little peak at the summit, and then a gradually rounded top and uniform descent, hardly interrupted by any dicrotic wave; indicating that the blood passed but slowly from the artery in either direction; not regurgitating into the ventricle, nor allowed to escape with undue rapidity through the relaxed arterioles.

We now find that his vision has decreased, and we can distinguish two souffles at the base, one systolic and one diastolic, the latter being much the weaker. A faint one is also to be heard at the apex, probably distinct from that at the base. The area of the heart's dulness is somewhat increased, but the impulse is not violent. Our sphygmographic tracing is, as you see, almost identical with that of last May (nine months ago), and is highly interesting as showing a constant condition of the circulation, and also as proving the accuracy of the instrument in recording such conditions; which one often feels inclined to doubt in watching the great changes in the result made by various circumstances, but especially by the amount of pressure employed in adjusting the pad upon the artery. As I have told you before, the important thing for us to know about the action of the heart is how it is doing its work, and not how much noise it makes about it; and it is very evident from this tracing that the diastolic murmur cannot signify any amount of regurgitation sufficient to affect the amount of blood in the arterial system. As to the systolic murmur at the apex, it is certainly common enough in such cases to meet with it when there is no reason to suspect valvular lesions of consequence.

The condition of the patient's urine is about the same as before. We have evidently here a typical case of that form of Bright's disease dependent chiefly, so far as the kidney is concerned, upon an interstitial inflammation, or an increase of the connective tissue. We are in the habit of speaking of two distinct forms almost as if they were two anatomically distinct diseases, as sometimes they are; but it can hardly be supposed that the deposit of new tissue among the tubes of the kidney, with its subsequent cicatricial contraction, can go on for years without affecting the secreting structure of which it forms the support; and, on the other hand, a chronic inflammation of the secreting surface, such as goes on in parenchymatous nephritis, is exceedingly likely to set up more or less hyperæmia and hypertrophy of the underlying tissues. Hence, although we have at one end of the series an exceedingly well-marked clinical group in which the initial lesion of the kidneys is in the connective tissue, and at the other, cases in which for a time the parenchymatous elements may be alone affected, yet we find a great many various grades of intermixture between the two.

In the form which we have at present before us, however, we have more to consider than the renal lesion alone. The condition of the heart and circulation is more than an accidental complication. It is a part and, according to some who have speculated upon its pathology, the most important and essential part of the disease; so much so that Dr. Mahomed, who gave a great deal of attention to the early stages of this affection, speaks of cases of Bright's disease which die without nephritis. This appears to me a misuse of language, since Bright's disease certainly ought to mean the disease that Dr. Bright described; and, although he had noticed and endeavored to account for the cardiac hypertrophy so often met with, yet he was writing, not about lesions of the heart, but those of the kidney. Setting aside, however, the question of nomenclature, it is certainly a great merit in Dr. Mahomed, whose early death we cannot consider otherwise than a great loss to medical science, to have called attention to the fact toward which other observers have been working, that so-called chronic Bright's disease of this form is really a general and not simply a local one.

While it is impossible, in the light of numerous observations which show the same condition under widely different circumstances, to accept the pulse or tracings of high arterial tension as at all conclusive of the imminency of Bright's disease, yet it is perhaps prudent to consider such a condition as being, in the first place when accompanied by grave symptoms, one more point in the diagnosis; and secondly, what is perhaps of more importance, to look upon a continued high tension, when occurring with only slighter disturbances, as a distinctly morbid condition, increasing usually with advancing years and rigid arteries, and hence of more significance when found in young or middle-aged persons.

Chronic interstitial nephritis is undoubtedly one of the dangers ahead, and it is highly probable that treat-

ment directed toward the condition known as lithæmia or incomplete nitrogenous metamorphosis, and embracing diminished nitrogenous diet, diminished acids and acid-forming material, attention to the action of the liver and bowels and sufficient exercise, may be the means of avoiding this as well as other dangers. Fortunately, the rules of hygiene, as well as the resources of medicine, do not always need for their practical application an exact knowledge of the remoter dangers. Such treatment harms few or none among the patients to whom it is likely to be applied, and is as useful in the prophylaxis of many other diseases as of Bright's. That mental tranquillity, so easy to advise and so hard to get, is no insignificant adjunct to such treatment. Dr. Allbutt has shown the importance of distress and worry as factors in the etiology of the contracting kidney, and it has certainly seemed to me that the most typical cases were to be found among middle-aged, active, anxious business men.

The theories between the changes in the kidneys, the heart, and the circulation are too numerous, too complicated, and, I may be allowed to add, not well enough established to be discussed here. The later ones, however, tend less than those of earlier date to attribute the cardiac hypertrophy simply to interference with the renal circulation. There are, however, experiments (those of Grawitz and Israel) and cases which go to show that destruction or injury to a considerable portion of the secreting structure of the kidneys, notwithstanding a very free formation of urine, may give rise to hypertrophy of the heart.

Such a case was the following: A boy, aged 5, had always passed urine copiously and frequently. Notwithstanding its involuntary passage, he could always pass more when called upon, The urine presented no peculiarities, except a very low specific gravity, a small amount of albumen with a deposit of a few pus cells, and no casts. He died two years later with headache and convulsions. The bladder was found very large, the urethra unobstructed, and the ureters dilated completely down to their entrance into the bladder and up to the kidneys, the pelves of which were dilated and the secreting substance much atrophied, that on the right side being reduced to a few very thin patches and a nodule at one end. The arterial system appeared healthy, but the left ventricle was large, thick, and firm. The sequence of events seemed here to have been paralysis of the bladder, dilatation of the ureters, atrophy of the kidneys, hypertrophy of the heart.

In the case before us, we are apparently dealing with one in which the cardiac and renal lesions are progressing side by side. The urine shows us the usual somewhat abundant quantity, abundant, that is, in proportion to the amount of fluid taken, a small amount of albumen, and a few casts. The general symptoms are as yet rather those of gradual failure than of local lesions or the effect of excrementitial accumulation. There is no dropsy, and, beyond some moderate delirium, no cerebral symptoms, neither paralysis nor convulsions. He has not even that intense "nervousness," or restlessness, or vague distress sometimes seen. Gastric disturbance is not extreme, although he does not eat a great deal, and he has had some, but not persistent, vomiting.

How far can we interfere in such a case to advantage? We could treat some of his symptoms; we can regulate his diet, give him partially digested food; administer bismuth or lime-water or digestives for vomiting; give morphia or caffeine for severe headache, give morphia or the hot-air bath or jaborandi (better the bath) for headache or convulsions; cathartics for dropsy, or tap him for an effusion sufficient to cause dyspnœa; but, unfortunately, he has none of these symptoms, and our question refers to his evident steady but tolerably comfortable progress toward a fatal termination.

I know no good reason to suppose that any drug has the power to remove the excess of interstitial tissue from the kidney, nor if it could do so that the secreting structure could be otherwise than irreparably damaged. Iodide of potassium has failed. Dr. Bright knew that mercury ought not to be given, and there is little to be hoped for in the other members of the same chemical group. The usual history of such cases goes to show that progress, though slow, is certainly, when advanced as far as this, steadily onward.

There is a class of drugs which have the power rapidly to reduce the tension of the arteries. These are the nitrites of amyl, of sodium, of potassium, of ethyl (spiritus ætheris nitrosi), and nitroglycerine. Of these, the latter has been used in some cases of Bright's with good results, of which one is claimed to be an increase in the quantity of urine.

In cases of the kind now under consideration, the urine is usually during the whole, or nearly the whole, progress of the disease sufficiently abundant, and the instances reported by Mr. Robson of the beneficial action of this drug in chronic Bright's disease do not seem to me to have been interstitial nephritis, but rather parenchymatous or mixed. Asthmatic symptoms, such as may often be present, and were so in some of his cases, are likely to be greatly relieved thereby. As to acute cases, the prognosis is so favorable under treatment directed toward sufficient elimination by the skin and to relief of irritation in the kidneys, that we can hardly consider successful results in a few cases as proving a great deal as to the value of a more specific treatment. In one case in which the tension was persistently high, I tried the effect of nitroglycerine on several occasions, carefully observing the pulse by the sphygmograph both before and at various intervals after the administration of doses as large as five minims of the usual solution (1 to 100) without perceptible effect. This was only case, however, and I have not repeated the experiment. I do not find that this remedy has as yet conquered a place for itself as the accepted or even a specially important one in renal disease of this kind.

It seems to me highly improbable that in the fully developed disease these agents, although useful in the relief of some symptoms, can materially modify its course. In the earlier stages, the dietetic and hygienic rules already spoken of, with attention to the bowels and skin, are of more importance and greater efficiency.

It is interesting to note that the high tension prevailing through the course of the disease may be temporarily modified by fever without producing any permanent change for the better.

A middle-aged man, who presented during his months of stay in the hospital uniformly the signs of high ten-

sion as well as the urinary symptoms of contracting kidney, had, on several occasions, acute attacks of a gouty character, during which the tension fell and the pulse presented, as shown by the sphygmograph, the usual characteristics of fever; a strong primary rise succeeded by a rapid fall and strongly marked dicrotism. This remark does not apply to the fever accompanying acute nephritis. In this affection, the tension falls with the improvement in the other symptoms.

ORIGINAL ARTICLES.

DISINFECTANTS.

PRELIMINARY REPORTS OF THE COMMITTEE ON DISINFECTANTS OF THE AMERICAN PUBLIC HEALTH ASSOCIATION.

IV.

DRY HEAT.

BY GEORGE H. ROHE, M.D.,

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THE first accurate observations on the disinfecting power of dry heat were made by Henry, of Manchester, in 1831. (Quoted in E. Vallin: *Traite des Désinfectants*, Paris, 1882, p. 226.) Henry exposed (fresh?) vaccine virus to temperatures varying from 50° to 82° Cent. (122°–180° Fahr.) for two, three, and four hours, and secured complete disinfection, none of the specimens of vaccine thus exposed producing vaccinia when subsequently inoculated. Exposure for three hours to a temperature of 49° C. (120° F.) failed to disinfect. No control experiments with non-disinfected virus were made by this observer.

E. B. Baxter (*Report Medical Officer of Privy Council*, etc., N. S., No. vi. p. 216) exposed dry vaccine to a temperature of from 90°–95° C. (194°–203° F.), for thirty minutes. Disinfection was complete. Vaccination with disinfected virus was unsuccessful. Control inoculations with non-disinfected virus were successful.

Carstens and Coert reported to the International Hygienic Congress of 1879 (quoted by Vallin, in the above-mentioned work) the following conclusions:

Fresh animal vaccine heated to 64.5° C. (148° F.) for thirty minutes loses its virulence. Fresh animal vaccine heated to 52° C. (125° F.) for thirty minutes does not lose its virulence. The maximum degree of heat to which fresh vaccine can be exposed without losing its infectivity probably varies between 52° and 54° C. (125°–129° F).

Davaine, in 1873, destroyed the virulence of fresh anthrax blood[1] by exposing it to temperatures of 55°C. (131° F.) for five minutes, 50° C. (122° F.) for ten minutes, and 48° C. (118° F.) for fifteen minutes.

Werner, in 1879, exposed putrefactive bacteria on pledgets of cotton and then enveloped in dry cotton to a temperature of 125° C. (257° F.) for one hour, and secured complete disinfection.

[1] Containing bacilli, but no spores.

Merwich (*Deutsche Med. Wochenschr.*, 1880, p. 498) exposed putrid material (containing bacteria of putrefaction) to a temperature of from 125°–150° C. (257°–302° F.) for five minutes with like success.

Schill and Fischer (*Mitth. a. d. Kais. Gesundheitsamte*, Bd II. S. 134) found that exposure for one hour to a temperature of from 100°–130° C. (212°–266° F.) destroyed the virulence of tuberculous sputum, as tested by the inoculation of rabbits and other animals.

Koch and Wolffhügel (*Mitt. a. d. Kais. Gesundheitsamte*, Bd. I.) experimented with a large number of pathogenic and non-pathogenic organisms. A temperature varying from 78°–123° C. (172°–253° F.) maintained for one hour and a half (over 212° F. for an hour) sufficed to kill micrococcus prodigiosus and the bacilli of septicæmia of mice and rabbits, but failed to destroy the spores of bacillus anthracis and of various non-pathogenic bacteria and fungi.

Micrococci and bacilli containing no spores, and spores of mould fungi, were completely killed by one and a half hour's exposure to a temperature of from 120°–128° C. (248°–262° F.); but spores of B. subtilis, B. anthracis, and of a bacillus growing upon potato, resisted a second heating to the same temperature for a similar length of time.

These authors further experimented upon a number of organisms disposed in various ways in the disinfecting chamber, so as to approach in a measure the conditions of practical disinfection. Some of the articles were placed in coat pockets, others rolled up in balls of cotton, oakum, blankets, or soiled clothing, making packages of different thickness and density. The organisms consisted of micrococcus prodigiosus, micrococcus of blue pus, bacillus anthracis, and bacilli found in garden soil. With each package was placed a registering thermometer to indicate the highest temperature reached during the experiment. The temperature in the chamber varied from 133° to 156° C. (271°–313° F.), and the exposure was continued for three hours and ten minutes. The temperatures in the different packages varied from 74.5° C. (167° F.) to 121.5° C. (251° F.). In none of the packages were the spore-bearing organisms destroyed. In a small iron vessel hanging free in the chamber and containing specimens of the same organisms, a temperature of 139.5° C. (283° F.) was indicated by the thermometer. Here complete disinfection had taken place.

Another series of observations with the temperature in the chamber varying from 131°–140° C. (267°–284° F.), and exposure continuing for three hours, resulted as follows: The organisms (micrococcus prodigiosus, spores of bacillus anthracis, and of bacilli of garden soil) and registering thermometers were enclosed in packages of clothing, bedding, and rolls of blankets. Complete destruction of the spore-bearing organisms did not follow unless the temperature of 139°C. (282° F.) had been reached. In one large package consisting of nineteen blankets, thoroughly dried and rolled up, the heat did not penetrate to the interior in a sufficiently high degree to destroy the vitality of micrococcus prodigiosus even.

These experiments were still further varied, but the results obtained did not differ materially from those

already given. They all showed the great difficulty of penetration of thick packages of fabrics of various kinds by a sufficiently high temperature to produce disinfection.

A large number of fabrics (linen, silk, cotton, wool, feathers, paper, and leather) were exposed for five hours to a temperature of from 150°–160° C. (302°–320° F.), with the result of producing such changes in color and texture of most of them so as to render them useless.

In a similar series of experiments, Ransom (*Practitioner*, 1878, p. 67) found that exposure to a temperature of from 240°–250° F. would be borne by clothing materials without injury. Vallin (*op. cit.*) states that cotton and wool fabrics do not change color at a lower temperature than 125° C. (253° F.), which corresponds closely with the observations of Ransom.

Koch and Wolffhügel (*op. cit.*, p. 321) submit the following conclusions, which seem to the writer to be fully justified by the results of their own and other observations here collected:

1. A temperature of 100° C. (212° F., dry heat), maintained for one hour and a half, will destroy bacteria which do not contain spores.
2. Spores of mould-fungi require for their destruction in hot air, a temperature of from 110°–115° C. (230°–239° F.) maintained for one hour and a half.
3. Bacillus spores require for their destruction in hot air, a temperature of 140° C. (284° F.) maintained for three hours.
4. In dry air the heat penetrates objects so slowly that small packages, such as a pillow or small bundle of clothing, are not disinfected after an exposure of from three to four hours, to a temperature of 140° C. (284° F.)
5. Exposure to a temperature of 140° C. (284° F.) in dry air for a period of three hours injures most objects requiring disinfection (clothing, bedding, etc.) to a greater or less degree.

V.

MOIST HEAT.

BY GEORGE M. STERNBERG, M.D.,
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WHENEVER infectious material can be consumed by fire, there can be no question as to the efficiency of this mode of disposing of it. But from the experimental data given in the preceding paper, it will be seen that the destruction of desiccated spores by dry heat requires a temperature which injures textile fabrics.

It is quite different with moist heat, and in steam, at a temperature of from 105° to 110° C. (221° to 230° F.), we have an agent which quickly destroys all living organisms, including the most refractory spores.

In the absence of spores, all known microörganisms are quickly destroyed when immersed in boiling water. Indeed, a temperature much below the boiling-point destroys micrococci and bacilli in active growth. Thus I have fixed the thermal death-point of the micrococcus of septicæmia in the rabbit, and of the micrococcus of pus (from an acute abscess) at 140° F. (60° C.), the time of exposure being ten minutes. This temperature is also fatal to the micrococcus of swine plague. The micrococcus of fowl-cholera is destroyed by exposure for fifteen minutes to a temperature of 132° F. (Salmon). Nine or ten minutes' exposure to a temperature of 54° C. (129.2° F.) is sufficient to destroy the vitality of anthrax bacilli in blood (Chauveau). Davaine has shown that, owing to the low thermal death-point of this bacillus, it may be destroyed in an inoculation wound by the application of heated metal to the surface —hammer of Mayor. May it not be that the *rationale* of the effect of poultices applied "as hot as can be borne" to furuncles, acute abscesses, etc., is to be explained in the same way? Or, at least, if a temperature sufficient to destroy the vitality of micrococci which have invaded the tissues cannot be borne, is it not probable that their multiplication may be prevented by the continued application of a bearable temperature?

The resisting power of spores is very much greater, and it is well known that the spores of *B. subtilis* and of other species of the genus *Bacillus* withstand a boiling temperature for a considerable time. My culture-fluids have frequently "broken down," on account of the presence of the spores of *B. subtilis*, after two hours' boiling, and, to insure sterilization, I am in the habit of resorting to a second boiling, after an interval of twelve hours, or of sterilizing in a bath containing some salt by which a higher temperature than that of boiling water can be secured.

A temperature of five degrees Centigrade (9° F.) above the boiling-point quickly destroys the most refractory spores. I have recently made numerous experiments upon the spores of *B. anthracis* and *B. subtilis*, which show that the former has less resisting power than the latter, but that both are destroyed by a temperature of 105° C. maintained for ten minutes. The same temperature failed to destroy the developing power of the spores of *B. subtilis* in five minutes, while two minutes' exposure destroyed the vitality of anthrax spores.

These results are in accord with those of Koch, Gaffky, and Loeffler,[1] who found, as the result of numerous experiments, that when a temperature of 105° and upwards was maintained for ten minutes, all spores were destroyed, as shown by their failure to develop in culture-solutions. Where a temperature of 110° C. was reached, the experiment could be stopped, as no spores were capable of germinating after exposure to this temperature. Exposure to a temperature of 100° to 105° C. for twenty or thirty minutes was fatal to anthrax spores, but those of a certain short and thick bacillus found in garden soil were only killed when the temperature was maintained at 105° for twenty minutes.

The question as to the practicability of destroying spores in the interior of packages—rolls of blankets, etc., has received the attention of the experimenters last mentioned, and will doubtless be considered by my colleagues of the Committee on Disinfectants, whose province it is to take account of the various points which may arise relating to the practical use of approved disinfecting agents.

[1] Mitt. a. d. Kaiserlichen Gesundheitsamte, vol. I. pp. 322–40.

From the experimental evidence presented, it is safe to say that:

The temperature of boiling water will quickly destroy the vitality of all microörganisms of the class to which known disease germs belong, in the absence of spores.

Steam at a temperature of 110° C. (221° F.) maintained for one or two minutes, or of 105° C. (230° F.) maintained for ten minutes, will infallibly destroy the spores of bacilli, which constitute the most difficult test of disinfecting power known.

Note.—I desire to call attention to the close correspondence between the thermal death-point of micrococci as fixed by my experiments, viz., 140° F. for ten minutes, and the results obtained by the authors quoted by Dr. Rohé in the preceding paper, in the disinfection—*i. e.*, destruction of specific infecting power—of fresh vaccine virus by similar low temperatures. Certainly this correspondence gives some support to the supposition that infective virulence is due to the presence of the micrococcus found in vaccine lymph, although the etiological role of this micrococcus has never been demonstrated by successful inoculations with pure cultures.

SECONDARY NERVE SUTURE.[1]

By THOMAS M. MARKOE, M.D.,
of New York.

It has long been known that divided nerves would, under favorable conditions, unite with restoration, more or less complete, of the functions which had been abrogated by the injury. Indeed, this fact has played a prominent part in the results of the operations which have been performed on nerves the seats of neuralgia, where it has been sought to cure the pain by abolishing the sensibility of the affected nerve by separating it by section from its trophic centre. These operations, as is well known, though giving temporary relief, have commonly failed to be of permanent benefit, because the divided nerves, after a certain lapse of time, have reunited, with re-establishment of function, which has announced itself by a return of the pain in all its original severity. To avoid this disappointing result, operators have been at much pains to prevent, if possible, the reunion of the divided trunk, and various devices have been resorted to for this purpose. Sometimes considerable portions of the nerve have been removed, sometimes a loop of the exsected nerve has been doubled back at each cut extremity, and some have fastened back these loops by sutures or ligatures. Some have modified this procedure where the trunk was easily accessible by burying the looped ends deeply in the surrounding tissues, and sometimes foreign bodies have been interposed between the divided ends to keep them separate until the disposition to unite should disappear. In spite of all these precautions, it has not been possible, in certain cases, to prevent a recurrence of the neuralgic disorder, a recurrence which, it is generally believed, and in some instances has been proved to be associated with a union, and sometimes with an extensive regeneration of the injured nerve. Examination of nerve-trunks which have undergone this regeneration, have shown the nerve-tubules perfectly restored in their continuity, and but little changed from their normal condition.

Such facts as these led very naturally to the hope that nerves accidentally divided, and where restoration of function has not occurred, might be restored to their normal powers of transmitting sensory and motor impressions by exposing the injured trunk and bringing together by suture the divided ends. This operation is not by any means a new one. It was done by Arnemann in 1826, and by Flourens in 1828, and it is stated that it was practised by Dupuytren in several instances at l'Hôtel Dieu. It was not, however, until after the elaborate researches of Augustus Waller, which were published in the Comptes Rendus of the Academy of Sciences of Paris, in the year 1852, that the operation was placed on a scientific basis. He showed, by means of experiments on animals, the whole history of degeneration and regeneration of nerves after injury so completely that he has left scarcely anything to be done by his successors; and, encouraged and guided by his discoveries, surgeons have performed the operation of the suture of divided nerves in a large number of cases in England, on the Continent, and in this country, with a success generally extremely satisfactory, though it must be acknowleged not equally as uniformly so. The operation has been done, in certain instances, immediately on the receipt of the injury, while the cut surfaces were yet fresh; and it has been done as a secondary operation weeks, months, and even years after the original accident, thus dividing the operations into two classes—the primary and the secondary. It is of the latter only, the secondary operation, that I propose to speak this evening.

I have had the opportunity of performing the operation in two cases, of which the histories are as follows:

Valentine Keller, æt. 36, a German, was brought into the New York Hospital, December 25, 1883, with a stab wound of the left arm. The wound was situated on the external aspect of the arm, about two inches above the external condyle of the humerus. It was not more than half an inch long, but the blade of the instrument had penetrated so far as nearly to transfix the limb, grazing in its course the anterior face of the bone. It was noticed that there was no pulsation at the wrist. A counter-opening was made at the point where the wound approached the skin on the inner side of the arm, and a fenestrated drainage-tube passed from one opening to the other. The day after his admission, without any apparent cause, profuse arterial hemorrhage took place. The wound on the outside was enlarged, and the brachial tied above and below the wounded point. No further hemorrhage occurred, but the loss of blood had been so great as to bring on a condition of collapse which was very alarming. Transfusion with a saline fluid was promptly resorted to, and gradually the patient rallied. The wound

[1] Read before the New York Surgical Society, Feb. 24, 1885.

healed slowly, mainly by granulation, and cicatrization was not complete till the end of January. On the 20th of January, attention was called to the fact that paralysis, both of sensation and motion, existed in the parts supplied by the musculo-spiral nerve. There was loss of the power of extension of the hand, flexion of the hand not impaired. There was loss of extension of the fingers, flexion remaining perfect. Motions at elbow-joint perfect. Anæsthesia, but not complete, existed over dorsal surface of thumb, index, and middle fingers, with a good deal of burning pain. He had now recovered his general health, but no improvement could be discovered in the paralyzed parts, though electricity and massage were daily and faithfully employed. He suffered so much from the causalgia, that trophic disturbances in the muscles and skin were beginning to show themselves so distinctly that suture of the nerve was decided upon, and performed on the 9th of February, forty-six days after the receipt of the wound.

An incision was made along the course of the musculo-spiral nerve, having the scar of the wound as its centre. A good deal of cicatricial tissue was encountered in passing down between the brachialis anticus and the supinator longus, but when the nerve was reached it was found to be free and distinct above and below the point of injury, and was without much difficulty isolated from the cicatricial mass and cut off clean with a pair of sharp scissors. By flexing the arm, the divided ends could be easily brought together, and the two were united by two slender catgut sutures passing through the substance of the nerve. The signs of degeneration of either end were not distinct. The wound was carefully closed, and the forearm left flexed at about a right angle with the arm.

February 10.—Complaining of much pain in the wound, but says he feels it radiating down the limb, along the musculo-spiral distribution, mostly on the dorsum of the thumb and the index finger. This pain was regarded as a favorable sign, and, it was hoped, would be the precursor of rapid restoration of lost power. This expectation, however, was not realized; the pain gradually subsided, and then disappeared altogether, the wound meanwhile healing well, mostly by primary union. By the time the operation was performed, the man had recovered his health and strength, and seemed to be in as good a condition as could be desired for its success. Electricity and massage were employed daily, and he was encouraged to use the arm as much as possible. The faradic current caused no response; the galvanic produced at first some contraction, but this soon ceased entirely. The affected muscles were flabby, but not appreciably atrophied. He was kept under observation, and treatment was sedulously continued, when, on the 14th of April, at his own request, he was discharged from the hospital. At this time there was no apparent improvement in the condition of the paralyzed muscles. The conditions as to sensibility were not noted. The hand and fingers were perfectly powerless as far as extension was concerned, and the member was therefore practically useless. I explained to him that restoration of function was often long delayed in these cases, and encouraged him to use all the muscles of the limb that were capable of acting, and in particular I urged him constantly to direct his will along the paralyzed cord, and try to make the muscles respond to their natural stimulus. I heard nothing more from him, except that he was under Dr. McBride's care in the out-patient department of the hospital, and was not improving. Recently, however, I have received a note from Dr. McBride, saying that Dr. S. O. Vanderpoel, Jr., who had acted in his absence, had reported to him that the man had so far recovered the use of the limb as to be able to go to work.

I saw him on the first of February, and found that he had regained the use of the paralyzed muscles so far that he could extend the hand and fingers, and supinate the hand almost to the full extent and with a good deal of power. The action could not be performed rapidly as yet, or completely, owing, no doubt, to the stiffness of the joints concerned from prolonged disuse. He is conscious of daily improvement, both in strength and facility of movement. The muscles can be felt to contract under the finger and have regained their normal bulk and firmness.

The second case was, to me, one of unusual interest, as I had no experience either of my own or of others to guide me in diagnosis, prognosis, or treatment. I believe the case to be unique in the history of surgery.

Lillie Dougherty, æt. 5 years, was admitted to the New York Hospital October 22, 1884, with a wound of the neck, inflicted by a sharp, clean instrument a short time before her admission. There was found an irregular wound extending from the nucha on the left side, opposite the fourth cervical vertebra, passing obliquely downward and forward to the posterior border of the sterno-cleido-mastoid muscle, and stopping about an inch above the upper margin of the clavicle. The sterno-mastoid and the trapezius were both partly divided. Considerable hemorrhage had occurred, but no vessel required a ligature. The child was slender in form, pale and delicate in appearance, but in good health as far as could be ascertained. The wound was brought together carefully, treated antiseptically, and healed, partly by granulation, in about a month. Soon after the injury, October 30, it was noticed that she was unable to raise her right arm from the side, and gradually as the disability of the shoulder from the wound subsided, it became evident that a certain amount of paralysis existed, unquestionably dependent upon some nerve injury inflicted in the depth of the wound. There was no nerve trunk in the course of the wound whose division could account for the paralysis, and in point of fact nothing but a wound of some part of the brachial plexus was competent to explain the symptoms presented, and this idea was rejected by me at first, and for two reasons: First, the wound did not appear deep enough to reach any part of the brachial plexus, and, second, the line of incision in the neck seemed to be entirely above the course of the fifth cervical nerve which forms the uppermost cord of the plexus. On carefully studying the conditions, however, I finally reached a positive diagnosis, becoming convinced that nothing could have happened in such a wound,

except as severing the upper cord of the brachial plexus could afford an explanation of the symptoms presented.

These symptoms were loss of power of abduction of the arm and of flexion of the forearm upon the arm. Supination was limited and feeble. Pronation good. Extension of forearm slightly, if at all, affected. Flexion and extension of hand and fingers not notably impaired. Anæsthesia well marked over the shoulder and outer aspect of arm. By the time that cicatrization of the wound had taken place, about the first of December, these signs of paralysis had become perfectly distinct, and it was also noted that atrophy was beginning, and was in fact well marked in the deltoid, and supra and infra-spinatus muscles, and less distinctly in the biceps and brachialis anticus.

She was placed upon tonic and invigorating treatment and regimen, and everything was done to improve and maintain her general health. Faradization of the affected muscles and friction of all the shoulder and arm was continued daily, but without any manifest results. The general condition improved very much to our satisfaction; she was very tractable and obedient in seconding our efforts to make her use her arm and shoulder muscles as far as her will had any control over them. No improvement could be discovered, the arm hung useless by her side, and when she wanted to play with her dolls she had to lift the palsied arm on to her lap with the other hand, and then she could use the fingers to hold it.

On the 8th of December a careful examination of the reaction under galvanic and faradic currents was made with the following results:

Muscles of Shoulder.

Nerve.	Muscle.	Galv. Cur'nt.	Far Cur'nt.
Spinal accessory.	Sterno-mastoid; trapezius.	Normal.	Normal. M & N absent.
Ant. thoracic.	Pectoral.	Normal.	Normal.
Subscapular.	Lat. dorsi.	Normal.	Normal.
Circumflex.	Deltoid.	Normal; increased when applied to muscle direct reaction of degeneration.	Absent; muscle atrophied.
	Muscles of Arm.		
Musc. cutan.	Biceps; brachialis anticus.	Normal; increased when applied to muscles; direct reaction of degen.	Absent to M & N; atrophy of muscles.
Mus. spiral.	Triceps; supin. longus.	Normal.	Normal or slightly diminished.

The reaction of the muscles supplied by the rhomboid, suprascapular, and long thoracic nerves could not be satisfactorily obtained, but the muscles themselves showed marked atrophy. The muscles of the forearm were not involved.

The faradic current was now replaced by the galvanic, which was applied daily. No improvement in muscular reaction. Atrophy of shoulder muscles appears more marked. Her general condition is greatly improved. She is in good spirits, eats and sleeps well, and presents the appearance and demeanor of a child in good health.

That the most careful study of the paralyzed muscles alone would have warranted a diagnosis as to the precise point of injury, I am not prepared to assert. Taking, however, all the points as they have been presented above, and associating them with a careful topographical survey of the line of the wound, there seems to be but one conclusion to which all the facts pointed, and that conclusion marked the fifth cervical nerve, which is the first or upper cord of the brachial plexus, as the seat of the injury, and in consultation with my colleagues it was deemed right to make an attempt to suture the wounded cord in the hope of restoring the functions of a limb in its present condition absolutely useless. In view of the fact, however, that these injuries to nerve trunks do sometimes recover spontaneously it was thought best to wait, before undertaking any operation, until it should become quite certain that nature was unable to effect a cure. Accordingly, treatment was steadily persevered in until the beginning of March, when, no improvement being perceptible, it was deemed justifiable to try what surgery could do to bring relief.

The operation was done March 2, 1884, one hundred and thirty-one days after the infliction of the wound. An incision was made along a line corresponding to the upper part and outer margin of the brachial plexus, and carefully followed down until this border of the plexus was reached. The cicatricial tissue was very extensive, and very confusing, as we tried to recognize the anatomical landmarks, and a very careful and tedious dissection was necessary before we clearly recognized the nerve cord involved in the wound. Finally, however, the nerve-trunk above and below the wound could be distinctly seen, and was isolated sufficiently to enable us to trace its whole length from the point of its emergence from the intervertebral foramen to the point where it joins the plexus below. We were extremely careful not to handle roughly, or to pinch with forceps, any part of the exposed nerve, and this it was that so greatly prolonged an already very tedious operation. The cord, which was now seen to be the upper root of the plexus, as we had originally supposed, was divided in two places with sharp scissors, so as to include all that part involved in the cicatrix, leaving a clear cut on both distal and proximal ends through healthy nerve substance. I say healthy nerve substance, but it became evident, on making the section, what I suspected when the nerve was first exposed, that the distal portion beyond the cut was in a condition of physiological integrity, while the short portion, less than an inch in length, which formed the proximal stump, was manifestly smaller, its fibres not so clean and glistening as in the cord below and in the surrounding nervous trunks. In short, it was the proximal, and not the distal, portion of the cut nerve which had undergone the classical degeneration, the

distal portion retaining almost perfectly its normal appearance. I very much regret that I cannot make this statement with the authority which would give it value as a scientific fact; for, unfortunately, no microscopic examination of the cut ends was made, and I am well aware that the gross appearances, though very distinct, would not alone be reliable evidence as to the condition of the nerve-tubules. Two very fine catgut sutures were now passed through the cut ends and tied, not very tightly. Some strain on the suture was easily overcome by flexing the head on the trunk, and drawing it toward the left side. In this position it was secured by bandages. The wound was dressed with iodoform and sublimate gauze, and behaved perfectly well, though not healing entirely by primary adhesion. By the 14th of March the wound was cicatrized, and she soon regained her usual condition of health. Convalescence was delayed by a pretty threatening attack of purulent conjunctivitis, which at one time seriously threatened the cornea. This, however, passed safely by, with no corneal damage, and no further complication occurred. The electrical treatment was resumed, and continued during the remainder of her stay in the hospital. No improvement followed the aspiration, and at the time of her discharge the condition of the muscles, both with regard to electrical reaction and voluntary motion, was just what it had been before the operation, saving that the atrophy, particularly of the deltoid, was more than ever conspicuous.

During the summer, she was taken to the country, and seemed in all respects quite well, but no change in the paralyzed parts was noticed until about the first of October, when slight voluntary motion began to show itself, which slowly but steadily improved. About the middle of January she was brought to my office, and I was delighted to find that she could flex the forearm upon the hand, and could abduct the arm from the side, during which movements the muscles could be felt contracting and hardening under the finger placed upon them. The shoulder had recovered its rounded contour and the flexor muscles had become markedly developed. In short, the evidences of atrophy had disappeared, and the indications of voluntary power were daily increasing. On the 21st of February I saw her again, and found the extent and power of muscular motion surprisingly increased. The case promises to prove a complete success.

The study of this whole subject during the last fifty years has led to some important and very interesting discoveries as to the behavior of nerves under and after severe injury. In the first place, it has been shown that, after complete section of a nerve-trunk, there ensues a degeneration of all that part of the nerve beyond the point of severance which extends throughout the whole distribution of the cut nerves, and is so complete that, according to most observers, all trace of original nerve tissue is lost. There is, however, considerable discrepancy of opinion as to the completeness of this destruction, some contending that it is absolute and entire, others believing that the sheaths of Schwann and the axis-cylinder never entirely disappear. That nerves thus degenerated after section was known long before his time, but Augustus Waller, in 1852, by his admirable and ingenious experiments, brought out all the facts connected with both the degeneration and regeneration of nerves so completely that scarcely anything of importance has been added to the history of the process since his time. The changes, as described by Ranvier, are about as follows: The experiments being conducted on cats and dogs, it was found that after section of a nerve the distal segment began to show signs of change as early as the first day. The myelin begins to disintegrate, and by the fourth to the sixth day has mainly disappeared, leaving the sheaths of Schwann filled with fine fatty granules. The axis-cylinder has also by this time, according to his observations, entirely disappeared. By the twentieth day, the sheaths of Schwann have become empty, and this he considers to mark the extreme point of degeneration, from this condition very little change being observed. A similar degeneration is noticed to begin at the cut extremity of the proximal end, but only reaches for a line or two from the end of the nerve and then ceases, the axis-cylinder remaining unchanged. This disintegration is now followed, after a varying interval, by a regeneration by which, in favorable circumstances, the altered nerve is restored to its normal condition and functions. This change consists in a reversal of the steps which the nerve took in its degeneration. The sheaths of Schwann, which, according to this observer, never entirely disappear, begin again to be filled out with a granular substance which soon assumes the character of myelin, the axis-cylinder makes its reappearance, and, in short, the atrophied and shrunken cord gradually assumes the appearance, and nearly the dimensions, of the original nerve. While this reformation of the nerve-tubules is going on, the union of the cut ends is being accomplished. By about the twentieth day fine delicate fibres begin to sprout from the proximal end into the cicatricial tissue which surrounds it, and gradually developing themselves in size and perfection of organization, shoot through the intervening bond of union till they encounter the distal end, with which they amalgamate themselves. Finally, if the ends are in good apposition, the cicatricial bond of union is occupied and displaced by newly formed nerve which joins the two into one continuous cord, in which the individual nerve-fibres are almost perfect imitations, perhaps on a slightly reduced scale, of the original nerve elements. In the animals, experiments on the repair was not perfected until about six months had elapsed. In man, it is probable that the period of perfect restoration is longer, but no accurate knowledge on this point has been attained.

Another of the effects of nerve section which has of late engaged the earnest attention of both physiologists and practical surgeons, is the paralysis of motion and sensation which usually follows a complete section of a nerve-trunk. I say usually, because the results of nerve division are by no means uniform or constant. There are reported, for example, a certain number of cases in which, after complete section of a nerve-trunk, no loss of sensibility could be detected in the parts supplied

by it, and a certain number of others in which sensibility being momentarily suspended, has been regained in a period so short as to make the immediate and perfect union of the divided ends the only explanation possible of the rapid restoration of nerve power. Still further, it is constantly noticed that anæsthesia following a divided nerve-trunk does not by any means accurately correspond with the area of distribution of the branches of that trunk, but is much less extensive than it should be, anatomically speaking, sometimes occupying only a small part of the region, the whole of which we should expect, *a priori*, would be affected. To the explanation of these facts much attention has been given by German and French observers; and much careful research has been expended, with the result of having some of the phenomena not as precisely accounted for as might be desirable.

The first mode of explaining these facts of the limited area of anæsthesia and the rapid return of sensibility is by invoking the aid of anastomosis. That anastomosis in the ordinary acceptation of the term does not exist among the nerves is conceded. It has been demonstrated by Waller that the nerve-tubules individually are continuous from the point of their central origin to the point of their final distribution, and that no communication exists between the myelin in these tubules, and that therefore one tubule cannot take up the function of a neighboring one which has been injured. It has been clearly shown, however, by the elaborate experiments of Arloing and Tripier, that, in the cat and dog, and in the horse and ass, there are certain tubules which pass from one nerve to another in a continuous or in a reverse direction, to be lost on the nerve to which they have attached themselves at a varying distance on the adopted trunk. These intercommunications are found first in the plexuses, where they are probably very frequent; second, in the branches which are known to pass from one nerve-trunk to another in the course of its distribution, such as those that pass between the medial and radial, and the anastomotic twig that joins the ulnar and the internal cutaneous. The most abundant anastomosis, however, is found near the peripheral termination of the nerves where all the terminal twigs unite to form the network of final distribution. Another explanation of the partial and limited anæsthesia which sometimes follows nerve section, is found by some in the belief that there may be such a thing as the immediate union of the divided ends with immediate restoration of function. This belief is entertained by such men as Schiff, Gluck, Tillmans, Paget, and more recently by Caput and Wolberg, who consider that this primary union is so prompt and complete that no degeneration of the distal fibres can take place; while, on the other hand, it is held to be untenable, because unproved, by such observers as Nicaise, Weir Mitchell, Letievant, Brown-Sèquard, and indeed by the great majority of the most distinguished experimenters. These observations as to the limitations of paralysis after section do not apply quite so commonly to lesions of motility. Here the conditions seem to be somewhat different. The effect of section here seems to be, almost uniformly, a complete motor paralysis, followed pretty early by muscular atrophy, which continues until the function of the nerve is restored by its union. Letievant has, however, called attention to the fact that even here there is room for deception, the associate muscles not paralyzed acting so as in a measure to supply the deficiency of those that are paralyzed, so as to give to the whole group what he calls supplemental motility, which may easily mislead the careless observer. This error is easily avoided by applying the electrical test and by noting the atrophy which is sure to develop itself soon after the nerve supply is cut off. These electrical tests are exceedingly valuable in all stages of these injuries, and may be furnished by both the faradic and the galvanic currents, applied either to the cut end of the nerve or to the skin over the belly of the affected muscle. It is noticed that the electrical current applied, in either way, soon after section causes a feeble contraction of the palsied muscles, but that this contraction grows less and less from day to day as the muscular fibre is undergoing disorganization, and finally ceases altogether, the strongest current producing no response. A curious fact is observed in connection with these electrical tests. It is thus expressed by Nicaise: "The faradization curve during the first fifteen days becomes gradually depressed. After the third week the muscle is no longer excitable, at least through the skin. Towards the sixth week, in favorable cases, the excitability reappears and gradually increases until it reaches the normal reaction. The galvanization curve follows an entirely different course. During the first fifteen days it follows the faradization curve; but from the third week, when the interrupted currents have no longer any effect, the galvanic reaction becomes exaggerated, the curve is raised, soon exceeding the normal, and reaches its maximum when the other is at its minimum. At the moment when repair begins to take place the galvanic phenomena follow an inverse order; at the same time that the faradic current is raised, the galvanic curve is lowered, and both gradually return to the normal level." This is what is spoken of as the reaction of degeneration by the German authors.

With regard to the facts of compensatory nerve supply, after section of a trunk, there can be no doubt, as the facts are so common and so easily observed; but as to the part which anastomosis takes in this return of function, our knowledge can hardly be said to have assumed a positive character. For example, the experiment by Arloing and Tripier, in which each of the four nerves going to a toe in the dog's paw were successively divided, with the result that no insensibility to pain followed the division of the first nerve, and none followed the second, and none the third; but when the fourth was cut, complete anæsthesia was immediately produced, seems to indicate so perfect a communication between the different nerves at some part of their course that we can hardly understand why, if this communication is always present, a severed nerve should show any signs whatever of paralysis.

Another point in the anastomotic theory, which

at first seems hard to comprehend, has reference to the communicating branches which join together some of the larger trunks. In these there has been shown to be fibres which pass from one trunk to another, recurring toward the cerebral centres, when they reach the trunk to which they are destined, and reaching a certain distance up this trunk towards its point of origin. Now, as far as we know, nerves in their normal condition transmit impressions only in one direction—*i. e.*, the sensory nerves send their current from the periphery to the centre, while the motor fibres bring the mandates of the central organ to the muscles at the periphery. If, therefore, there is to be any anastomotic current supplied through these recurrent fibres, the nervous impulse must pass along the nerve in a reverse direction to that which it originally followed. This is a fair objection to this part of the theory, and at first sight seems well taken. The well-known and ingenious experiment of M. Paul Bert, I think, fully answers the objection. M. Bert made an incision along the back of a rat, and then, having denuded the end of the tail of its skin, placed the tail thus denuded in the incision in the back where it adhered firmly. After the union had become firm, he cut off the tail at its root, leaving its end adherent to the back. Now, upon irritating the tail at its root, evidences of sensibility to pain were distinctly manifested, showing that a nerve under altered circumstances could convey impulses in a reversed direction, very much as a telegraph wire can convey messages in both directions.

Of the technique of these operations, but little requires to be said. The injured nerve-trunks are usually superficial, and therefore easily accessible. In the operations which I have done, the main difficulties have been, first, the finding and identifying the distal atrophied extremity; and, second, the disentangling without bruising or laceration of the cut ends from the cicatricial tissue by which they are surrounded, and with which they are apt to be very closely incorporated. Both these proceedings require great delicacy in handling, and great patience in unravelling the slender and fragile fibres, and in extricating them unharmed from the tough and unyielding cicatrix in which they are buried. Another difficulty which I encountered in the neck case was the misleading effect of the cicatricial tissue when I was trying to follow down the areolar interspaces in order to arrive at the injured nerve. So utter was the confusion of layers that, although I had rehearsed the operation many times on the cadaver, I found myself wandering so far from my course that I was well over toward the jugular vein before I could be sure of my landmarks. The two ends of the divided nerve being exposed, the extremity of each is to be severed with a pair of sharp scissors, taking care to go sufficiently high to reach original nerve tissue, and at the same time being careful to avoid cutting away more than is necessary, lest the tension be increased when the ends are brought together. In one of my cases, that of the arm, microscopic examination showed no trace of nerve fibre in the part cut away by the scissors, proving that my section had not reached the real nerve end. This I think unfortunate, and must always delay, and probably sometimes defeat, the object of the operation. Various sutures have been used to join the cut ends, but opinion seems to have settled upon catgut, as fine as is consistent with strength. The shape of the needle is not unimportant. A common round cambric needle is the best, making its way through the tissues by displacement rather than by cutting. Wolberg recommends a flat needle, shaped like a sabre, but without cutting edge. Some are careful not to pass the needle through the substance of the nerve for fear of injuring the tubules. Most operators prefer to pass the suture through the body of the nerve, as securing a stronger hold. Some cut the two ends obliquely so as to make flaps, which, being applied to one another, afford an increased surface of contact. Rawa brings the ends together side by side and then surrounds them and binds them together with a catgut ligature. When much loss of substance has occurred, and the ends cannot be made to touch, Vanlear has suggested placing the ends in a Neuber's drainage-tube, and with catgut threads attached to each end of the nerve, drawing them as near as possible together within the tube, and leaving the space between the ends to be filled up by the reparative material. In a case in which he found it impossible to bring the ends in apposition, Löbker resected the bones of the forearm, thus shortening the limb so that the ends could be approximated without tension. In an experiment, Gluck transferred a rabbit's nerve to the limb of a chicken with success; and on the human subject, Albert replaced an exsected nerve with a segment of nerve taken from a recently amputated limb.

The nerve ends being brought securely together, great care is to be taken by position of limb that no tension should occur. The wound should be brought together so as to secure primary union if possible, as the healing by granulation is believed to exercise a very unfavorable influence on the result, particularly if it be long delayed, or accompanied by much suppuration.

The time at which return of sensation takes place is very variable, in some cases sensibility being well marked in a few days, in others not until months or even years have elapsed. It is sometimes noticed, as in my musculo-spiral case, that, very soon after suture, a painful sensation pervades all the branches of distribution of the severed nerve, and this is sometimes the precursor of a healthy restoration of sensibility. It is not so always, however, but sometimes gradually subsides, leaving the parts in their original, more or less perfect insensitiveness. The return of motility is commonly longer delayed than the return of sensibility. Here we have not only the degeneration of the nerve, but degeneration of muscular fibre to be overcome, and accordingly this paralysis is not only more slowly recovered from, but much more frequently remains a permanent disablement. It will be noticed that, in this communication, I have scarcely alluded to the trophic changes which are so certain to ensue after nerve section. This has not been because I undervalued these changes, either in their clinical

or scientific aspects. It is simply because in the two cases which have been the basis of my studies these trophic changes never assumed any prominence.

With regard to the results of the operations that have been put on record, the most recent and best tabular statement is found in Weissenstein's article on secondary nerve suture in Brun's *Chirurgischen Klinik*, 1884. He gives the results of thirty-three cases, from all sources, in which the operation has been done at varying periods after nerve injury, in almost every case after the original wound had healed. To these thirty-three cases I have been able to add—

1. Dr. W. S. Halsted's case. B., aged 22 years, injured by glass. Degenerative reaction of muscles and complete loss of sensation in the regions supplied by the median and ulnar nerves at the time of the eighth month after injury. Separation after paring off nerve ends about three inches. Neuro-plastic suture of median and direct suture of the ulnar, with relaxation sutures in both. Strong flexion of hand and forearm, and still some tension. The wound healed by primary union. No benefit six months after the operation.

2. By Dr. Weir, wound of sciatic nerve nine years previously, operated on December, 1882; catgut sutures. By suturing adjacent tissues, and flexing knee forcibly, approximation was obtained. No improvement in motility, but gain in general sensation, and great improvement in trophic changes, which had advanced to ulceration. The ulcers all healed and local nutrition generally improved.

3. A case operated on by Dr. W. T. Bull in July, 1883. It was a case of wound of median and ulnar nerves with corresponding paralysis. The suture of both nerves with catgut was done about seven weeks after injury. Was discharged from the hospital about five weeks after operation, with both sensation and motility beginning to return and improving daily.

4. A case reported by Dr. Roswell Park, of Chicago, in which the radial was sutured with catgut sixteen days after its division. The recovery was rapid, the patient being considered well in six weeks.

5. Case reported by me above, of musculo-spiral suture forty-six days after wound. Catgut suture, recovery of sensation and motion, with a useful limb. Daily improving.

6. Case reported above of suture of upper cord of brachial plexus, one hundred and thirty-one days after its division. Recovery of sensation and motion and nutritive condition, daily becoming more perfect.

These six cases added to Weissenstein's thirty-three, make in all thirty-nine cases. Of these, twenty-nine were successes, in so far that sensibility and motility were at least partly recovered. In six cases no improvement, or almost none occurred, and in three cases the data were insufficient for statistical use. The dates of improvement can be given approximately thus: Traces of sensibility were noted in from two to four weeks. Traces of motility in from sixteen days to sixty, in two cases more than a year. Complete restoration of muscle function was marked in one case as occurring in twenty-six days; in several cases not till the lapse of one or even more years. All the authors seem to agree that electricity and massage greatly favored the return of function in the paralyzed parts. If now we consider that three-quarters of all the reported cases were more or less successful, and still further consider that many of the cases were reported so soon after operation that the full results had not yet been realized; I think we are warranted in concluding that the proceeding promises a degree of success which we can count upon in very few of the operations which we are every day performing. When we take into account the serious and permanent disability for the cure of which the operation is recommended, the entire freedom from danger to life, and the large measure of success which has followed its performance, we are entitled, I think, to regard it as one of the best and most useful contributions to modern surgery.

ON THE USE OF BICHLORIDE OF MERCURY IN PHTHISIS.

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The bichloride of mercury is not, I believe, in general use as a remedy in phthisis pulmonalis, but is, I think, of sufficient value to merit further investigation.

The only article written upon the subject that has come to my notice was that of Andrew H. Smith, M.D., of New York, in the *Medical Record* of September 20, 1884, in which he spoke of some experiments with the drug for the purpose of ascertaining the maximum dose that could be safely given, evidently with the idea of producing a favorable effect, by the germicidal action which the medicine is known to possess.

I have not used it with the same purpose in view, but rather with the expectation of promoting the action of the lymphatic system in removing deleterious matter from the blood and system at large, and of improving the quality of the blood.

Prof. Bartholow, in his *Materia Medica*, says that

> "Mercury increases the number of red corpuscles, and improves the quality of the blood, providing it be given in small quantities, not often repeated, but any considerable quantity administered a sufficient time will affect the quality and composition of the blood: the red corpuscles are diminished in number, the fibrin loses its plasticity, the proportion of water is increased, and various effete materials, whose nature is unknown, accumulate.
>
> "The metal has a selective action on the lymphatic system."

I am of the opinion that the lymphatic system is largely at fault in phthisis, and, indeed, the theory, that phthisis and scrofula are identical, is a very prevalent one.

I have, therefore, not considered the part taken by the bacillus tuberculosis in the use of this remedy, being first induced to use it, by noting its good effect in a case of suspected syphilitic phthisis.

I have used the following prescription, at times slightly modified, in thirty-three cases of phthisis, twenty of which were treated in hospital, the remain-

ing number as office cases, most of the latter being in the incipient stage of the disease:

R.—Hydrarg. bichlorid. . . . . gr. j.
Ammonium chloride . . . . ℥iiss.
Alcohol . . . . . f℥ij.
Glycerine and water to make f℥iv.

Of this, a teaspoonful was given after each meal, well diluted.

In addition to this, I have usually prescribed an embrocation of oleum morrhuæ and oleum terebinthinæ, to be used over the chest twice daily.

The result has been, I believe, in every case (with the exception of one of laryngeal phthisis, well advanced before treatment was begun, which ended fatally) most satisfactory, the symptoms improving with as much regularity as we expect in cases of malaria under the judicious use of quinine, though of course not so rapidly. I do not remember a single case (except the one noted above) under the treatment for any length of time without seeing most marked improvement in the symptoms and general condition. The most unsatisfactory feature in the use of the medicine in my hands has been the impossibility of keeping the patients in view until a final result was obtained. Those who were treated in the office, upon being relieved of the disagreeable symptoms (which I know occurred in many cases), have either neglected to return for a continuance of the treatment as directed, from carelessness, or have shipped to some part from which it was impossible to return, if they so desired. Those treated in hospital, upon reaching that point at which they were able to resume work, have in almost every case shipped and have not again been seen. This renders a report of the changes in physical signs impossible, as such changes are necessarily slow. I have, however, used the remedy sufficiently to be convinced that its effects are more satisfactory than those of any other drug, or combination of drugs, with which I am acquainted for tubercular affections.

The final result of the treatment, if it could be followed as long as desired, I have not been in a position to determine, although in three hospital cases, two of them possibly syphilitic, the cough has entirely stopped, flesh and strength have been gained, and the patients have resumed their employment. Only one of these at the present time has any symptoms of chest trouble, and he coughs only upon fresh attacks of cold. They all present some dulness by percussion of the chest and some want of normal vesicular breathing. These signs, I hope, will gradually disappear.

I will briefly notice the following cases in which the action of the medicine has been especially favorable:

Case I.—John Silva, aged 48 years, nativity West Indies, occupation seaman, admitted to the Marine Ward, City Hospital, November 13, 1884, is still remaining under treatment.

When admitted, he was suffering principally from diarrhœa, which had existed some length of time, and doubtless of a tuberculous character. He was extremely emaciated, had a troublesome cough, and was confined to bed for some time after being admitted. He had dulness at the apices of both lungs on percussion, with feeble breath-sounds over the upper lobes of both lungs. Under the treatment spoken of above, the diarrhœa very soon ceased to be troublesome, the cough has been remarkably improved, he has gained in flesh and strength, and if the improvement continues, will soon be able to ship again. An interesting feature of the case was a tympanitic distention of the abdomen, which came on about a month ago, during a time when the bichloride was not being used. This swelling during the last ten days, under the hypodermic use of the remedy, has steadily disappeared, the improvement, I think, being due to its action on the lymphatic glands of the intestines.

Case II.—Vicenta Tanda, aged 23 years, native of Spain, occupation seaman, was admitted to hospital December 22, 1884; discharged January 10, 1885. He has been at odd times under treatment as an office patient for phthisis, but neglected to return for medicine, not having received treatment since October 18, 1884. When admitted to the hospital he presented a distressed and shrunken face, of a pale bluish, unhealthy color, with heavy dark lines, and depressions under the eyes, glands in the submaxillary region indurated, painful, and the size of walnuts, a very troublesome, hoarse cough, and considerable expectoration of a tenacious character. His appetite was very poor; he was weak and emaciated. Dulness on percussion was noted over both lungs, generally distributed, and a corresponding lack of vesicular sounds on auscultation. Within three days of the time when treatment was begun (the bichloride hypodermically, and oil externally) a considerable change for the better was noticed, and when discharged, after twenty-one days of treatment, he looked and felt like a different man, the cough and other troublesome symptoms having disappeared to a remarkable degree.

Case III.—Andrew Taylor, aged 45 years, colored, was admitted to the City ward of the hospital, not being a patient of the Service, in June, 1884. He was in the last stage of consumption, delirious, extremely feeble in strength, with some fever, and was confined to bed.

The patient, under the bichloride $\frac{1}{32}$ grain, began at once to improve; in a few days was sitting up, and in about three weeks went home of his own accord.

From my experience in the administration of this drug in phthisis, I am of the opinion that if given internally, its dose should be not greater than $\frac{1}{32}$ grain three times a day, or only twice a day if it is to be continued for more than two weeks without an intermission. I believe it is better not to produce any of the characteristic toxic or inflammatory symptoms which follow the prolonged or over-administration of the remedy. I have recently, in a few cases, substituted the hypodermic for the internal method of giving it, and, from a limited experience, think the former has some advantages which the latter has not. It is, however, quite painful when used w th the needle, so much so that it would be hard work to induce many patients to submit to it for any length of time. The albuminate, made with the

corrosive sublimate and the white of egg, is less painful than the solution in water or alcohol.

Since the above was written, I have added to the albuminate injection, for the purpose of relieving pain, in one case, two drops, in another, four drops, of a two per cent. solution of hydrochlorate of cocaine, with the following result: In the first case the pain did not begin until an hour after the injection, lasted but one hour, and was less severe than usual. In the case in which four drops were used the patient reported very much less pain than on previous occasions.

If the hypodermic should prove the more valuable method of administration, the cocaine may, to a large extent, remove the principal objection to its use in that way.

MEDICAL PROGRESS.

Chinolin as a Remedy in Diphtheria.—Dr. Jul. Donath, in the *Wiener med. Presse*, of January 18, 1885, after reviewing the results reported by numerous physicians on chinolin as a remedy in diphtheria, and which are in the main favorable, gives his own conclusions as follows. Notwithstanding its favorable effect upon the local manifestation of the disease, it does not in all cases exert a similar beneficial influence upon the general infection, of which the most reliable symptom is the appearance of albumen in the urine. Whether the sequelæ and complications of the disease are less severe under the chinolin treatment, Dr. Donath is unable to decide. However, in no case in which the remedy was used, did the disease attack the larynx, nor to any extent, worthy of mention, invade the nose, or reach the middle ear through the Eustachian tube. Further, it is worthy of note that the mortality of the disease was, in the same epidemic, before the employment of chinolin, 35.2 per cent., and after its introduction 16.6 per cent. It, therefore, appears worthy of further trial.

Suggestions as to the Operation of Abdominal Section.—Dr. Thomas Savage, in *The British Medical Journal* of Jan. 31, 1885, after reviewing a year's work in abdominal surgery, comprising one hundred and four cases with nine deaths, concludes his paper as follows: We are learning, if we have not already learnt, to look on acute peritonitis as a symptom of some organic change, and not as a disease in itself. And this is well for our patients, because operative measures can do much for it. We shall, ere long, regard so-called "idiopathic peritonitis" almost as a curiosity.

To obtain success in abdominal section, the conclusion of another year's work impresses upon me more and more forcibly the importance of insuring that the peritoneum shall be kept "clean and dry." There must be in many cases a certain amount of oozing, which will become absorbed; and I always feel happier when I think there will be little or none. But much more dangerous than this are the small escapes, during the operation, of fluid or blood, if allowed to be left behind. I think I am more particular than formerly in my sponging. A sponge deep down in Douglas's space, before adhesions are separated and blood escapes, will catch some fluid which might escape extraction afterwards. I also endeavor to press, as I proceed, a sponge or sponges into the bed out of which I have picked adherent tumors. The sponge soaks up what is effused, and, by its pressure, tends to restrain further effusion. One principal advantage from washing out the pelvis with warm water, arises from the property that the water has of floating the small clots from the deep recesses up to the surface.

I am never afraid of my sponges; I attend to them myself, and so I know the life-history, as it were, of every one of them, from the moment they leave the shop where I purchase them, until they do service in an abdominal cavity.

Rheumatic Typhlitis.—Dr. E. de Bourgarde de la Dardye, in a memoir on Rheumatic Typhlitis, establishes definitely the pathological existence of this affection, which hitherto, though not denied, has not been adequately elucidated. The conclusions of his interesting work are as follows: The rheumatic principle may be specially localized in the cæcum and produce a typhlitis which may be designated as *rheumatic*; rheumatic typhlitis is very frequently preceded or followed by rheumatic manifestations in various organs, or in the articulations; it may originate without complication of other parts, but in this case it attacks almost exclusively those who have previously been subject to other manifestations of rheumatism. Rheumatic typhlitis has special characteristics by which it may easily be distinguished from other inflammations of the cæcum; it generally is not serious, and terminates by resolution after two or three weeks.—*L' Union Médicale*, Jan. 22, 1885.

Congenital Sacral Cyst.—Dr. George R. Fowler, in the *Annals of Surgery*, for February, 1885, reports a case of congenital sacral cyst, on which he operated without success. The case is interesting as well as rare, inasmuch as examination showed the entire absence of the lower sacral vertebræ and coccyx, and, in addition, the anterior cyst wall was adherent to, or, more properly speaking, formed a part of the pelvic peritoneum.

The plan of treatment followed was the only one from which any hope of benefit could be derived, Dr. Fowler concurring with Sir Benjamin Brodie in the opinion that unless the entire growth be extirpated, it is worse than useless to attempt to operate at all.

The case affords but another example of failure due to the impossibility of definitely determining beforehand the exact attachments of the growth.

The Recent Epidemic of Cholera.—At a late meeting of the Académie de Médecine de Paris, M. Prout concluded the reading of the medical reports upon the last epidemic of cholera. The conclusions arrived at are that:

1. Cholera was imported into many of the cities and towns mentioned in the reports.

2. Water has played an important part in the transmission of the disease.

3. The intensity of the epidemic has been in direct relation with the unsanitary condition of the contaminated localities.

4. The cessation of the epidemic in infected regions

can in great part be attributed to hygenic precautions and to disinfection.—*L'Union Médicale*, Jan. 29, 1885.

ENEMATA OF TANNIN AS AN ABORTIVE OF CHOLERA.—CANTANI, in the *Gazetta degli Ospitali*, 1884, No. 86, strongly recommends injections of tannin as an abortive of cholera. This method of treatment has been tried with great success by his colleagues, the diarrhœa incident to cholera being always checked.

The formula, according to which the preparation is made, is the following:

Warm water (boiled) . . .	2 quarts.
Tannin	45 to 90 gr.
Gum arabic	℥iss.
Laudanum	30 to 50 gtt.

Cantani and his colleagues have found that the cholera infection, at least in the late epidemic, begins in the colon. This is, moreover, confirmed by the investigations of Koch—who found pathological changes principally to exist in the neighborhood of the ileo-cæcal valve. The circumstance that a single enema of tannin is sufficient to destroy the infection, leads Cantani to the conclusion that it not only acts as an astringent, but also as an acid, and gives to the contents of the colon an acid reaction and thus hinders further production of the cholera germs. After serious secondary changes have taken place the abortive treatment does not give favorable results. After the great loss of fluids and a consequent dry state of the tissues, hypodermic injections constitute the only hope for recovery. These must be resorted to before the heart-muscle has undergone change, the chemical composition of the nerve centres altered, and before the destruction of blood corpuscles renders successful treatment impossible.—*Centralbl. für klin. Med.*, Jan. 17, 1885.

AGARICINE IN THE NIGHT-SWEATS OF PHTHISIS.—M. SEIFERT has found agaricine to be useful in controlling the night-sweats of phthisis.

He employs it as follows:

Agaricine	gr. $\frac{1}{12}$
Dover's powder	gr. 100
Mucilage	gr. 60

Divided into 100 pills.

In almost every instance the effect is manifested after the administration of one pill, and two pills never fail to exert a beneficial influence. M. Seifert also alternates agaricine and atropia with good results.—*Journal de Médecine de Paris*, February 7, 1885.

FACIAL NEURALGIA TREATED BY NERVE VIBRATION.—DR. W. H. NEALE reports a case of facial neuralgia, in which marked improvement and probably cure resulted from treatment by nerve vibration. Drugs after long trial being found useless, the treatment under consideration was resorted to. All drugs being abandoned percussion was resorted to, and a small white ivory disk with about ninety vibrations to the second was used and applied to the spots at which most pain was felt. The pain at first was intensified, but gradually disappeared, and after a treatment of about three weeks the patient was entirely cured, and, at the end of four months still continues well.—*Practitioner*, November, 1884.

OIL OF GAULTHERIA IN RHEUMATISM.—DR. LEUBUSCHER has reported a long series of cases of rheumatism of the joints, in which he has used the oil of gaultheria with as good effect, in every instance, as heretofore was obtained with salicylate of soda. Humming in the ears and difficulty in hearing were also observed as concurrent effects.—*Wien. med. Presse*, Jan. 4, 1885.

SULPHATE OF COPPER IN OBSTETRICS.—DR. CHARPENTIER proposes to employ this salt in solution of 1 to 500 as an antiseptic of the first rank and which will be of signal service in obstetrics.

Its effect, he says, when used for vaginal or intra-uterine injection is entirely harmless. It has also valuable properties as a hæmostatic and astringent, and may be substituted for the perchloride of iron. The solution for this purpose should be of 1 to 100 heated to a temperature of from 96° F. to 100° F.

The injection should be continued eight or ten days, at intervals during each day, unless other effects than reduction of temperature and diminution of the pulse rate be observed.

In surgery it is valuable as an antiseptic, especially in extensive thrombus of the vulva, and in fetid abscess of the urethro-vaginal septum, even where solution of carbolic acid has failed to be of service.—*Journal de Médecine de Paris*, February 7, 1885.

TREATMENT OF EPILEPSY WITH OSMIC ACID.—WILDERMUTH, in the *Berlin. klin. Wochenschr.*, reports having used osmic acid in the treatment of epilepsy for two years. The remedy was administered internally, and also in the form of osmiate of potassium, in pills or bolus, each pill containing $\frac{1}{60}$ grain of potassium osmiate, and increased up to a quarter grain. The acid was previously given in a watery solution.

Trial was first made upon ten aged epileptics; seven showed no results; in two cases the attacks became less frequent; in one an extremely severe attack followed the administration in large doses. This was succeeded by decrease and diminution of the attacks and their final disappearance with improvement of the mental condition. Of three cases whose treatment with osmic acid is published, two show marked improvement both in diminished frequency and severity of the attacks, while in the third no results are yet noted. Unfavorable sequelæ have never been noticed.—*Allgemeine Wien. Med. Zeitung*, January 20, 1885.

THE PREATAXIC PERIOD OF SYPHILITIC TABES.—PROF. FOURNIER, after reviewing the different manifestations of syphilitic tabes previous to the appearance of ataxia, makes the following *résumé:* The ataxic period of syphilitic tabes covers a period which may vary between some months and thirty years. It is characterized by an invasion of isolated symptoms on the part of the organs of sense and the cerebro-spinal system and the genito-urinary apparatus. These symptoms frequently pass unnoticed, and it is only by careful observation that they can be appreciated. Recognition of them is very important as the only means of determining the preataxic period, and as offering the only time at which treatment with hope of cure can be instituted.—*Révue Médicale*, January 17, 1885.

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ENTERECTOMY AND ENTERORRHAPHY.

IN the issue of THE MEDICAL NEWS for February 21st, we made some editorial comments upon a successful laparotomy and enterorrhaphy for gunshot wound of the small intestine, which called forth a letter from an esteemed correspondent, published in the issue of the following week, in which we are credited with favoring, positively and without qualification, the resection of the injured parts and uniting the ends with sutures, to the exclusion of the formation of an artificial anus. The correspondent further states that there is not an unanimity of opinion upon the proper practice to be pursued in operations upon the intestines; he quotes Whitehead and Reichel as being opposed to resecting, suturing, and returning the gut, and pays us the compliment of asking that we present the evidence and teaching upon this most important point of progressive surgery. As the subject is really one of great practical interest, it gives us pleasure to comply with his request, particularly as we feel that the desired information will be appreciated by other surgeons.

At the outset we must declare that we did not express an unqualified and positive opinion in regard to an exclusive method of treatment of shot wounds of the intestines. In the article in question, we distinctly stated that after an exploratory laparotomy, "if the gut be opened the wound can be closed with sutures, and hemorrhage arrested, thereby materially enhancing the chances of recovery. When the perforations are in close proximity to each other, the affected portion of the gut should be excised, the divided ends be approximated, and the coil be returned into the belly. The formation of an artificial anus, as attempted by Lloyd, is not desirable."

The opinion as to suturing, with enterectomy, in shot injuries was based solely upon experiments upon animals, not a single example having, so far as we know, occurred in the human subject. In the experiments of Parkes upon dogs, which may be found in THE MEDICAL NEWS for May 17, 1884, there are several illustrations showing, first, most extensive and severe lacerations produced by bullets of small calibre, the entire circumference of the bowel being at some points entirely destroyed; and, secondly, multiple perforations so closely situated that only half an inch or less of the wall of the intestine separates them from each other. In all such cases the extensive laceration can only be treated by excision of the damaged part, if the wound be single, or by excision of a coil of the intestine when the wounds occur close together. Ordinary suturing under such circumstances will not answer, first because of the constriction of the gut which would ensue; and, secondly, because the wall of the gut would be liable to slough. Hence, in cases of multiple perforations occurring close together, Parkes successfully removed in several instances ten inches or more of the intestine, while, when the openings were widely separated, and much damage done at each point, several resections, just sufficient to include the injured portions, were made. The practice of Parkes, we take it, is eminently proper, and the rule of excision should be absolute if the mesenteric artery supplying the injured area be divided, since the gut will become gangrenous, as has happened in at least five cases of pylorectomy, in which death was due to mortification of the transverse colon from the cutting off of its arterial supply. In simple, uncomplicated wounds, on the other hand, the case of Bull shows that suturing alone will suffice.

In the letter of our correspondent it is stated that Reichel has collected 121 cases of resection of the intestines, the conclusion being that the two ends of the bowel should not be united at the time of resection, but that an artificial anus should be established. On referring to the original paper, contained in the *Deutsche Zeitschrift für Chirurgie*, Bd. xix., 1883, we find that the conclusion is based upon the very proper assertion that sutures should only be used upon sound intestine, and that as the coats of the bowel are diseased or softened in strangulated hernia, intestinal obstruction and tumors, resection and suturing are contraindicated. The management of shot wounds is not even referred to.

In THE MEDICAL NEWS for February 2 and March 15, 1884, we directed attention to enterectomy with enterorrhaphy for artificial anus and for gangrenous hernia. Since those dates, we have added other cases to our lists, and are now able to confirm the statements made in those articles. Of 85 operations for gangrenous hernia, 51, or 60 per cent., died,

while of 65 for artificial anus, 22, or 33.84, succumbed. These facts indicate, as pointed out by Reichel, that the damaged condition of the gut in the immediate vicinity of the mortified portion is the chief cause of the greater mortality of the former operation, through the giving away of the stitches and the consequent fecal effusion. Hence, Reichel suggests that before resection be practised the gut be drained and kept moistened with an antiseptic agent until its normal condition in the vicinity of the gangrenous part is restored. Whether this course be pursued or not, the success of the operation will greatly depend upon cutting through and suturing sound tissues, even at the expense of removing a large amount of the canal, which appears to be a matter of no moment. Even with this large mortality—nearly 60 per cent.—circular resection and suturing of the gut in gangrenous hernia is less lethal than the establishment of an artificial anus for the same condition, the mortality of which is placed at 80 per cent. by Benno Schmidt, and at 86 per cent. by Ill. In favor of the former operation, it is, moreover, to be said that, if successful, the recovery is absolute, and that a secondary operation for the relief of an artificial anus is dispensed with.

In the operations that have been practised for the relief of carcinoma of the large intestine, resection with suture also shows a lower death-rate than the establishment of an artificial anus. Thus, the cæcum and the ascending, transverse, and descending colon, and the sigmoid flexure have been excised and stitched in at least 18 instances, with 8 deaths, or a mortality of 44.44 per cent., the operators having been Billroth in 3 cases, Kraussold, Czerny, and Schede, each in 2 cases, and Reybard, Gussenbauer, Baum, Fischer, Credé, Thiersch, Treves, Rehn, and Sydney Jones, each in 1 case. In only one, that of Baum, was the fatal issue due to the sutures, only six, instead of about thirty, having been inserted, and death having occurred from fecal extravasation. In all the others, the patients died of shock, and the sutures were properly applied. How well they do their work is shown by the case of Treves, in which, on death in twelve hours, there was no leakage, although the colon at the site of the sutures was distended with fluid feces.

Colectomy, or cæcectomy, with the establishment of an artificial anus, on the other hand, has been done by Billroth in 2 cases, and by Volkmann, Bryant, Marshall, Martini, Maydl, Lammiman, and Whitehead, each in 1 case. Of the 9 cases, 5 or 55.55 per cent., died, the mortality being greater by 11.11 per cent. than for resection and suture, and this despite the fact that the belly was opened in the former cases and the loin in the latter.

These data, together with severe test of the efficacy of excision and suturing afforded by pylorectomy, show that the conclusion of Reichel is not sustained, and that, with the evidence before us, the operation of excision, with suture of the divided ends, and return of the bowel into the abdomen, is safer than the formation of an artificial anus in cases of strangulated gangrenous hernia and in examples of obstruction of the large bowel by carcinoma.

We regret that want of space compels us to refrain from entering into a description of the technical details of the operation, but we may refer our readers to papers on the subject by Treves, in the *Medico-Chirurgical Transactions*, vol. 66; by Marshall, in the *Lancet* for May 13, 1882; by Reichel in the *Deutsche Zeitschrift für Chirurgie*, Bd. 19; by Bouilly and Assaky, in the *Revue de Chirurgie*, Nos. 5 and 7, 1883; The Medical News for March 15, 1884, and by various authors in the *Verhandlungen der Deutschen Gesellschaft für Chirurgie* for 1882 and 1883.

DEATH OF THE FŒTUS FROM DELAY IN DELIVERY OF THE BODY.

Dr. Schultz contributes to the February number of the *American Practitioner* an instance of death of the fœtus from the delayed expulsion of the body caused by uterine inertia. The case reported is not an anomalous one; indeed, it is not improbable that this accident, though by no means frequent, is, on the other hand, not very rare, and that there are but few obstetricians who have not met with a greater or less number of cases of difficult delivery of the shoulders. They, indeed, are very fortunate who have never seen a death from the delay incident to it. The treatment of these cases is then a most important practical question. In its discussion we shall lay aside those examples of great disproportion between the fœtal body and the birth canal, as, for example, when tumors of the fœtus, or ascites, delay or prevent the expulsion of the body.

The history of the cases in which a failure of uterine force results in retention of the shoulders after the head is born, is in some instances that of a protracted labor, the uterus having become exhausted by long efforts, and almost entirely ceasing to act after expelling the head. In other cases, the head has been delivered by forceps, because of failure of uterine action; and in many such, failure has been brought about by the too free administration of an anæsthetic, this agent having been given to the extent of abolition not only of sensibility, but also of volition, and almost of uterine contractions, which at least have become feebler and less frequent. Indeed we believe that many a child's life has been lost by the unrestrained use of chloroform or of ether in labor.

The danger to the child arises from compression of the chest, or from pressure on the cord, which may

encircle the body once or oftener, and thus render it more liable to have its circulation arrested.

To understand how we are to relieve the child most quickly and safely from its imminent peril, we must recognize the mechanism of labor in the delivery of the shoulders, for after this no delay usually occurs in the expulsion of the body. The passive movement of the fœtus in the mechanism of labor after delivery of the head, is rotation of the shoulders from the pelvic transverse to the pelvic antero-posterior diameter. The uterine contractions, the most important and active factor in causing such rotation, being weak or absent, we substitute for the *vis a tergo*, a *vis a fronte;* that is, with our hands we draw the fœtal head farther out, assisting, it may be, by suprapubic pressure, the descent of the shoulders, and we may also endeavor directly in this traction to turn the occiput toward the mother's left or right thigh, according as the occiput was originally toward the left or right side of the mother's pelvis; but traction and pressure being well made, we may generally trust this turning to nature. This movement having been effected, the anterior shoulder will be found just emerging at the pubic arch, for we hold that in all cases of perfect perineum the anterior shoulder, notwithstanding the conflicting statements of some obstetric authorities, is born first. This shoulder, as well stated by Pajot, represents the occiput in delivery of the head, and as in the latter delivery the nape of the neck or the suboccipital region becomes the fixed point resting upon the pubic arch, so the part of the arm just below the shoulder rests upon the arch until the posterior shoulder and arm are delivered, while the body undergoes lateral incurvation, a movement corresponding to extension in the delivery of the head.

Once the anterior shoulder has taken the position mentioned, our efforts must be directed to the delivery of the posterior shoulder, and this end we seek to accomplish by raising the head and making slight traction in order to bring the posterior shoulder far enough down so that a finger can be introduced into the axilla and traction thus made. But if we fail thus to reach the axilla, we may, as advised by Spiegelberg, and as taught by the late Professor Hodge, push the anterior shoulder in behind the pubic joint, thus bringing the neck of the child in the pubic arch, and causing it to press against the subpubic ligament, and by this means the posterior shoulder can usually be brought to the margin of the perineum. This having been accomplished, the head is carried backward, when the anterior shoulder again comes just outside of the pubic arch, and delivery is easily effected.

In some cases a blunt hook placed in the axilla may be necessary, only one must be careful, as advised by Spiegelberg, not to act upon the humerus on account of the risk of detaching the epiphysis.

Jacquemier taught that after the head is born two methods are offered: the one, traction upon the head, —it sometimes succeeds, but often fails; the other, traction by the fingers in the axilla. He looked upon the latter proceeding as only preliminary to the disengagement of the arms, drawing upon which the trunk is delivered. He thought this method not only furnished the best means of exerting traction, but also very advantageous by lessening the size of the chest. Charpentier endorses the practice, but frankly states the occurrence of an accident in a case in which he pursued it—fracture of the humerus. He also mentions that traction by the finger in the axilla caused paralysis of the opposite arm; the fracture was cured in nine days, the paralysis in four months. Spiegelberg, wisely, as we think, rejected bringing out the arms, on the ground of danger of fracture of the bones, or injury to the epiphyses, holding that if there was room for this manipulation, there was room for delivery without it by other methods. If the child be dead, the only question as to delivery is to use those means which will be safest and best for the mother.

THE DIFFERENCE BETWEEN THE FALSE MEMBRANE OF DIPHTHERITIC AND THAT OF CROUPOUS LARYNGITIS.

Prof. Virchow has recently taken occasion, before the Berlin Medical Society, to express himself pointedly upon the difference between the tracheal membrane found in croup, and the so-called false membrane in diphtheria of the fauces. The former is a true fibrinous membrane found on the surface of the trachea, and, under favorable circumstances, can be expectorated. The latter is something altogether different. It is a necrotic surface which gradually separates itself, not by a process of simple exfoliation, but by ulceration. Diphtheritic, unlike croupous membrane, can never be forcibly separated from the fauces without leaving a raw surface of greater or less depth. Moreover, cases of diphtheritic bronchitis extending even into the parenchyma of the lung have been observed, in which the false membrane consisted of a necrotic layer penetrating the tissues to a varying depth, instead of the usual croupous process attended by the presence of the superficial easily separable false membrane.

As to the question of infection, Virchow held that while we have not yet been able to cultivate the parasite of diphtheria, it is true that the diphtheritic focus, let it be as small as it will, is full of small granules, which he does not hesitate to regard as parasitic organisms although he formerly regarded them as exudation granules. Certainly they can be very easily inoculated. To prove this one has only

to introduce them upon the surface of the mucous membrane, or on a wound in it, when there promptly succeeds a process in which similar granules are invariably present, just as is the case with other forms of parasitic inoculation. These granules are entirely wanting in the true croupous membrane.

For these reasons he considers the two to be totally different processes. He believes, however, that the diphtheritic process, if quite superficial, may also be accompanied by a fibrinous exudation, but not when deep-seated, because the bloodvessels of the mucous membrane are entirely occluded so that circulation, and therefore exudation, is impossible.

When the diphtheria, therefore, is superficial, the two processes are identical, so far as the formation of false membrane is concerned, but the moment the diphtheria is deeper they again differ, because the exudation ceases. Virchow further believes that the granules in the necrotic or diphtheritic membranes are probably insoluble in digestive and other fluids, while the fibrinous exudate is. Practically, however, this fact avails us little, because in the pharynx, where they could be reached, the true fibrinous membranes are least likely to occur, and in the trachea they are too remote to be influenced by available solutions.

GENERAL GRANT'S ILLNESS.

SINCE our report of last week, GENERAL GRANT'S condition, we regret to record, remains unimproved, and we find nothing in the history of the progress of the case upon which to base a hopeful prognosis. The ulceration in the right anterior pillar of the fauces, we are authoritatively informed, has progressed, and the mucous membrane of the hard palate is invaded by the induration, which varies from day to day, being sometimes less and sometimes greater. The induration of the tongue has undergone but little, if any, ulceration. The glandular enlargement, on the right side of the neck, is about one and one-half inches in its longest diameter, and has increased but little, if at all, in size since it was first observed in the autumn.

The diagnosis of the affection from which the General suffers, rests between epithelioma, lupus, and scrofulous or tubercular ulcer, specific infection being entirely out of the question. We think, however, that this expression of a doubt arises rather from reluctance to abandon all hope than from any actual uncertainty as regards the epitheliomatous character of the disease.

The only changes which the disease has undergone during the past week are the slight increase of the area of ulceration in the anterior pillar of the right fauces. The General has suffered from loss of sleep; and his nights have been bad, although there has not been much pain. The question of operative interference is not considered, but it may be deemed advisable to divide the lingual nerve for the relief of pain, in case it becomes a prominent symptom.

THE QUESTION OF VIVISECTION.

ANTIVIVISECTION literature grows apace. As the antivivisectionists do not think and reason, but only feel and declaim, as they are happily oblivious of facts, and mistake a vague sentimentality for scientific knowledge, the only limit to their productive activity is the boundary imposed by the credulity of their followers. The medical members of this cofraternity of hysterical enthusiasts and humanitarian sentiment drivers seem to be actuated by two designs: the desire to enjoy the sensation of a personal goodness superior to that of their benighted medical brethren; the attempt to pose before the public as reformers with a lofty mission.

The latest production of this sentimental school has recently been published in this city, and is entitled "The Question of Vivisection. Was the Act of the British Parliament in Restricting Vivisection Inconsiderate and Unnecessary?" It is not only characterized by monumental ignorance of the "question," but it misrepresents, in the most barefaced manner, the opinions of well-known authorities. That this severe judgment is justified, is fully confirmed by a comparison of the author's statements with the published record. Thus on page 8 of this remarkable pamphlet, we find the following sentence:

"Neither can this cause any surprise when an Owen, a Ferguson, a Ferriar [Ferrier], a Darwin, a Bernard, and others, having similar experience, have been frank and independent enough to confess the inadequacy of experiments upon living animals to establish a reliable diagnosis, and, as a sequence, a reliable therapeutical treatment of disease. In this view, the preëminent experimentator, Virchow, concurs," etc.

This blundering attempt to make Bernard an opponent of vivisection is simply ludicrous. If its author, or any of our readers, will consult Bernard's *Introduction a l'étude de la Médecine Expérimentale*, Paris, 1865, p. 218, he will read that, of which the following is a literal translation:

"Experiments on the higher animals in our day throw light on the questions of special physiology and pathology, which are applicable to practice—that is to say, to hygiene or to medicine. . . . The experiments on animals with deleterious or noxious substances are very useful and perfectly conclusive for the toxicology and hygiene of man. The researches on medicaments or toxic agents are equally applicable to man, from the therapeutic point of view; for, as I have shown, the effects of these sub-

stances are the same in animals as in man, except the difference in degree."

Who, besides the author of this pamphlet, does not know that Ferrier's title to fame rests on his experimental work in animals, done to establish cerebral localizations? Do we not all rely on this work to fix the site of cerebral lesions, and was it not utilized but the other day to determine the situation of an intracranial growth removed by the trephine and knife of the surgeon guided by the same information? Is it not equally absurd to quote Virchow in the same breath, when the ink has scarcely dried on his elaborate paper defending the practice of vivisection?

The antivivisectionists should seriously ponder the weighty words of Mr. Matthew Arnold on "clear thinking and straight seeing." They should learn to appreciate this fundamental truth—that it must be quite as meritorious to employ animals to improve the mind as to nourish the body, or do they believe that man's intellectual powers are of less importance than his somatic functions? We doubt if they impugn the humanity of the butcher, unless the matutinal steak proves to be tough to the teeth and unsatisfying to the stomach.

SOCIETY PROCEEDINGS.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, March 5, 1885.

The President, A. Jacobi, M.D., in the Chair.

Dr. William C. Jarvis read a paper on

THE ETIOLOGY AND TREATMENT OF NASAL CATARRH, WITH SPECIAL REFERENCE TO THE DEVIATED SEPTUM; WITH PRESENTATION OF INSTRUMENTS.

The impression, he said, had become quite prevalent among the public, and to a certain extent in the profession, that chronic nasal catarrh was incurable. Such was by no means the case, however, when the affection was treated in a rational manner, which involved the discovery and removal of the cause giving rise to it. In a paper on hypertrophic nasal catarrh, which he read before the American Laryngological Association in 1880, he had referred to deviated septum as a very prominent factor in the etiology, and described a treatment by novel methods. His subsequent experience had only confirmed him in his conviction of the very great importance of this factor. As to the character of the abnormal condition of the septum, it might be osseous, cartilaginous, osteo-cartilaginous, and hypertrophic. In situation, the deviation might be localized or general throughout the septum. The purely osseous form was rarely met with, being almost invariably associated with the cartilaginous. The cartilaginous was by far the most common of all.

The factors concerned in the production of deviated septum were, first, pressure-irritation; and, second, defective nasal drainage. Of the effects of pressure, he had spoken particularly in the paper referred to. Although the turbinates might not be found pressing upon the tissue over the septum, the existence of this form of hypertrophy afforded, he thought, clear proof of contact at some period of the disease; a certain amount of turbinated hypertrophy was always found in connection with it. He had a drawing taken from a patient, the right side of whose vomer was occupied by a cup-shaped hypertrophy, the depression on its surface being the impress of the inferior turbinate lying opposite. The inferior turbinate bone of the other side was enlarged and pressed against the vomer, the tissue over which had already commenced to thicken.

In speaking of the matter of defective nasal drainage, Dr. Jarvis described the peculiar anatomical formation of the parts below the nose, which gave them their adaptation to drainage. Thus the palatine prominence divided the passage into two gutters to conduct the mucus when it left the cavity of the nostrils, while the discharge was prevented from entering the larynx by the slight elevation made by the arytenoid cartilages, the cartilages of Wrisberg, and the folds of mucous membrane. The importance of this system of nasal drainage, he said, was very clear, and any disturbance of its balance would certainly give rise to trouble. Prominent among such disturbances was deviated septum.

Among the causes of the latter, he mentioned heredity and traumatism. Deviated septum might also be acquired. In regard to the first cause, he said that malformation of the hard palate was often transmitted from parent to child, and that it was not infrequently associated with deviation of the septum. No two palatine arches were exactly alike, but while there might be considerable variation without positive abnormity, the formation of the part in which there was an abrupt elevation along the line of the median raphé was the one which caused difficulty, because it was almost necessarily combined with a corresponding deviation of the septum, giving rise to chronic rhinitis. He then referred to a number of instances in which he had observed this malformation of the hard palate in several members of the same family, all of whom were the subjects of old catarrhal trouble. As a result of his observations, therefore, he dissented from the hypothesis that there was a constitutional diathesis which transmitted nasal catarrh. He had found that remarkable mental capacity was apt to be associated with chronic nasal catarrh, because a large cranial vault was not infrequently attended with unusually contracted nares. Early acquired catarrh, therefore, instead of being of scrofulous or diluted syphilitic origin, was likely to be due indirectly to unusual cranial development.

Traumatic deviation of the septum was most frequently met with among the lower classes of society, and he said he had yet to meet with the first professional sparrer or prize-fighter, however healthy he might be in other respects, who was not the subject of chronic nasal catarrh.

Acquired or induced deviated septum was the result of prolonged intranasal pressure from hypertrophied tissue, polypi and other tumors, the repeated introduction of the finger, etc.

Passing on to speak of the treatment of deviated septum, he said that no single method was suited to all

cases. To cure the catarrh dependent on it, it was necessary to remove the deviation. His ring-drop speculum was of service in dilating the nostril. The instrument which he most used for removing tissue was the écraseur, which he had described on previous occasions. The piano-wire which he now employed with it was of a very fine size. Combined with the écraseur, it was invariably required to use his transfixion needles, which were from one to four inches in length, straight and of various degrees of curvature. In order to economize time in certain cases, he had devised other instruments, such as his fenestrated cartilage forceps and beaked scissors, which were bent at the proper nasal angle for operating and observing. As bone blunted their keen edges, when osseous tissue was to be cut through he employed the *rongeur* forceps, which removed it by a kind of biting process. When the deviation was extreme, there was considerable danger of perforating the septum, and on this account he preferred the stellate punch in such cases.

The cutting was usually the simplest part of the operation; the great difficulty being the proper approximation and adjustment of the fragments. Ordinarily the pain produced by the écraseur was not great, but he had found cocaine of the greatest possible service, as a rule, in relieving it. He was in the habit of using Farcard's ten per cent. solution. In any case in which the pain was extreme, however, there was nothing so good for producing local anæsthesia as rhigoline, applied with a spray; pain being an absolute impossibility when this was employed. The objection to the use of rhigoline is its liability to explode when its vapor comes in contact with the light used to illuminate the nasal cavity. This, however, had now been obviated by an electric light, enclosed in a glass bulb, which he had devised, and which he now exhibited. It was maintained by the Foster battery, which was in reality a combined battery and accumulator. It was especially valuable on account of the long continuation of the current, and its inventor, Mr. Foster, claimed that it was not necessary to refill it more than once a year. In conclusion, Dr. Jarvis exhibited his rhinometer or nose measurer.

Dr. Francke H. Bosworth said that he must take issue with Dr. Jarvis on some points. He thought that it was about time to drop the use of the word "catarrh," which meant simply a discharge, but was made to cover the whole area of nasal diseases. The catarrh was merely a result of these various diseases. As to pressure-irritation in connection with deviated septum, in the number of the *American Journal of the Medical Sciences* for January, 1876, Dr. Harrison Allen had published a paper which excited a great deal of controversy, in which he concluded that two mucous surfaces coming into contact with each other give rise to the results claimed by Dr. Jarvis. For his own part, he did not believe that this pressure was the cause of trouble, and there were numerous instances that could be observed in which two mucous surfaces come in contact with each other without producing evil results. Pressure irritation, he was convinced, was of no weight in this connection until very late in nasal disease. As to the matter of defective nasal drainage, the nasal fluid was about as benign and unirritating a one as could well be imagined, and the cause assigned by Dr. Jarvis did not go down to the ultimate source of the truth. The points most dwelt upon in the paper, he thought, were merely adventitious features of deviated septum. In nine cases out of ten, in which this existed there was catarrh. The use of cocaine, as now resorted to for the last three months, enabled us to eliminate swollen mucous membrane by its local effect on the parts, and permitted us to make a thorough examination of the exact condition present. He believed that a primary factor in the etiology was an interference with the normal respiratory function in the nose; the rarefaction of the air in the nasal passages leading to dilatation of the neighboring venous sinuses. He did not himself believe in a diathesis causing nasal diseases; but, unfortunately, Dr. Jarvis in speaking of the matter of heredity, had referred to the ulceration of the palatine arch, which was well known to be one of the effects produced by *mollities ossium*. In this case there was undoubtedly struma, resulting in softening of the bone, and the nasal catarrh was one of the adventitious results of the struma. The indication in the treatment was to remove the obstruction occasioning the nasal stenosis, and, of course, a great variety of instruments and methods might be employed for this purpose. In performing these operations, he was constantly in the habit of using cocaine, and almost invariably with complete success in abolishing pain. On account of the great expense of the drug, he used only a two per cent. solution; but by applying it to the parts to be operated on for twelve or fifteen minutes before commencing, he found that it acted in a perfectly satisfactory manner.

Dr. S. O. Vanderpoel, Jr., referred to an article by Dr. Roberts, of Philadelphia, published in the *Boston Medical and Surgical Journal*, in which he described an operation for deviated septum consisting of division of the septum with a bistoury, and subsequent retraction of the parts by means of a pin introduced through the concave nostril. He had himself now employed it with very fair success in four cases. In a fifth (that of a small child) the pin was inadvertently pulled out by the attendant. In one of the cases the nostril was so occluded that he found it necessary to employ Adam's forceps to break up the septum before resorting to the pin. The pin, he thought, possessed a great advantage in the fact that when it was used it was not necessary to have any large foreign body in the nares, such as the usual nasal splints.

Dr. D. Bryon Delavan said that he would have to take exception to the treatment advocated by Dr. Jarvis. He believed that deflection of the septum was due to a deviation of osseous structures, and many skulls that he had examined showed an extreme degree of deflection of the septum. But there are other changes involved, such as enlargement of the turbinated bone and the arch of the nose where the cavity was the wider; and he had observed that patients with deviated septum often breathed better through the narrower nostril than through the wider one. The bony structures thus being involved, it was not enough to remove merely the soft tissue, but it was also necessary to take away a portion of bone. It was impossible to replace a deviated septum when there was an enlarged turbinated bone on the narrow side. It seemed to him, therefore, that in many cases the method described by Dr. Jarvis was not equal to the exigencies of the situation.

Dr. Jarvis remarked that his paper had evoked less

hostile criticism than he had anticipated. He quite agreed with Dr. Bosworth that the name catarrh was objectionable; but, as he himself had said some time ago, he thought it well to employ it on account of its long continued and generally accepted use, though not attaching any pathological significance to it. Moreover, in the paper, instead of always speaking of chronic nasal catarrh, he had alluded to hypertrophic rhinitis as a frequent condition. As to the fact of pressure-irritation resulting from prolonged contact of the parts, he was fully convinced of its existence and importance, not only from pathological researches, but from the physiological action of the turbinated bone which he had repeatedly observed in the living subject. He quite agreed with Dr. Bosworth that normal mucus was not irritating; but thickened mucus of an increased specific gravity would invariably cause irritation by toppling into the larynx and closing up the nostrils. In regard to the production of local anæsthesia, if cocaine was too expensive, rhigoline would prove perfectly satisfactory, and that could be purchased for sixty cents a pound. If the electric light described could not conveniently be obtained, operations could be done in strong sunlight, although, as a rule, artificial light was preferable. He believed that the osseous turbinated enlargement referred to by Dr. Delavan did occasionally occur; but it was the rare exception, not the rule, and he had personally seen only two instances of it. If the condition existed, the methods he had mentioned (particularly the use of the *ronguer* forceps) would be found sufficient for the purpose of removal. As to the association of mental capacity with chronic catarrh, he thought that enlargement of the cranial dome was apt to be combined with contracted bones of the face and a high-arched hard palate.

Dr. George G. Hopkins, of Brooklyn, reported

A CASE OF FIBROMA OF THE BREAST AT SEVEN AND ELEVEN YEARS.

The patient was a child eleven years of age, living in the West, who four years previously had had removed from the right mamma a hard tumor, by a physician who had since died. It was almost an inch in diameter, situated in the structure of the gland to the right and on a line with the nipple, and was pronounced to be of a malignant character. About six months after its removal (in 1881), a tumor of the left breast was first noticed, which continued to increase in size until 1883, when it was an inch in diameter. There was then apparently no further growth until last June, when it began to increase rapidly. Dr. Hopkins first saw the girl on the 1st of September, 1884, when he found that the glands of the axilla were already implicated. On the 6th of October, assisted by Dr. J. C. Hutchison, he removed the entire mamma, including the nipple and areola, and also four of the axillary glands. The operation was performed with antiseptic precautions, and the entire dressing was removed on the ninth day, when it was found that the wound had healed. Some of the catgut sutures employed had already dissolved, and the remaining ones were dissolved by the eleventh day, while the drainage opening closed up on the sixteenth day. Under the microscope the tumor showed the characteristic fibroid structure, and the interest of the case lay in the early appearance of the disease, as there could be little doubt that the tumor which had been removed from the right breast was identical in character. In his work on mammary tumors, Dr. S. W. Gross stated that fibroma might appear as early as the age of twelve. Six per cent. of the cases recorded by him were under sixteen. Personally he pronounced the present growth to be fibroma, and said that he had heard of no previous case as early as seven years. The amputated breast and microscopic specimens from the tumor were exhibited. Dr. Hopkins stated that the mother of the child was the subject of uterine fibroids.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Stated Meeting, February 5, 1885.

The President, B. F. Baer, M.D., in the Chair.

CALCULI IN THE FEMALE.

Dr. J. W. Snowden exhibited the stones and related the history of the case. He was called, June 1, 1884, to see Mrs. L., aged 23 years. She was born and has resided in a limestone region in New York.

Up to 13 years of age she was troubled with enuresis; wetting the bed almost nightly. After this she ceased passing her urine during sleep, but was obliged to rise for this purpose two or three times during the night. She could not retain her urine night or day after the desire to pass it came on. If she could not reach a convenient place, she would wet her clothes.

She married when seventeen years old. Two months after marriage she began to have cystic irritation and soon passed sabulous matter and small calculi. These symptoms continuously increased. Physicians whom she consulted said she had catarrh of the bladder, but none made an examination for stone. Once she was obliged to have a calculus removed which had become impacted in the urethra.

Two years ago she spent a summer in New Jersey, during which time she passed no gravel, but the irritation of the bladder continued. When he first saw her she was urinating very frequently, with more or less pain. She passed stones daily, with a great deal of sabulous matter. The urine looked as if there was a quantity of ordinary sand in the bottom of the vessel. He proposed an examination for stone, which she refused, peremptorily. He gave her benzoic acid, which entirely stopped the passage of the sabulous matter and relieved her in every way, but she still occasionally passed a small calculus. This marked relief lasted two or three months, when the irritation of the bladder became worse than ever. She could only pass her urine in the erect position and with as much effort as a woman in labor. He insisted upon an examination for stone, but the slightest touch excited such intense pain even when she was well etherized, that being alone he could not manage her, and he sent for Dr. Baer in consultation.

A calculus measuring about one and a half inches in its longest diameter was found in the bladder and removed by Dr. Baer after rapid dilation of the urethra. This afforded marked relief and she soon seemed entirely cured; but in a short time her urine began to dribble continually while she was in the recumbent position at night. During the day she retained and

passed her urine naturally. He advised her to get up at stated intervals and empty her bladder, which has gradually relieved this trouble. She is now quite well except that she urinates rather more frequently than is natural.

NEW YORK SURGICAL SOCIETY.

Stated Meeting, February 24, 1885.

The President, Robert F. Weir, M.D., in the Chair.

FIBRO-MYXO-SARCOMA OF THE TENDONS OF THE WRIST.

The President presented a patient, married, eighteen years of age, who four years ago first noticed a tumor on the posterior surface of the left wrist. In 1882 she came under Dr. George A. Peters's care, who removed the tumor, and about three months afterwards, while the patient was yet in the hospital, he extirpated some cervical lymphatic glands which had undergone cheesy degeneration. The growth at that time was examined microscopically, and pronounced a myxo-sarcoma. It recurred within a year and a half, when the patient came, temporarily, under Dr. Weir's observation. Last fall she entered the New York Hospital. There was then a tumor lying over the wrist-joint, on the dorsal surface, about two inches in length, oblong in shape, and which had somewhat the feel of a compound ganglion. Pressure at the lower part of the tumor gave a sense of fluctuation, and at the upper portion the sensation of the presence of rice bodies could be detected to a slight extent. Dr. Weir resolved to extirpate the growth, and did so by making a long incision, and when he had reached the tumor he found that it was adherent closely to the tendons of the extensor communis digitorum, and dipped down into the tissues below, so that in removing it one of the tendons (the thumb's inner extensor) was divided and the wrist-joint opened. From the extent and general appearance a question arose as to its exact nature. It presented thickened tissue with a number of small growths from its inner surface, with a certain amoun of gelatinous fluid in its substance. No free rice bodies were found. From the gross appearance it was thought possible, since Koenig had shown that the tubercle bacillus may give rise to ganglionic formations, that this might be one of those varieties of tumor, and the growth was subsequently examined with reference to this particular point.

The interest of the case centred not only upon the rarity of the lesion—that is, sarcomatous disease of the tendons, but also upon the somewhat apparent conflict of opinion with reference to the nature of the tumor. Dr. Peabody, the pathologist of the hospital, who had examined both the first growth removed and the present one, reported that it was a myxo-sarcoma. Two other pathologists had examined the tumor and reported that they found only granulation tissue. Dr. Hall, who had been much interested in surgical diseases of tubercular origin, had taken special pains in the examination of the neoplasm, and had presented the following report:

Gross appearance is that of gray gelatinous granulation tissue, closely resembling so-called fungoid granulations. A microscopic examination shows large bundles of white fibrous tissue, wavy, and containing large spindle cells. The bundles cross each other in different directions, so that some are cut across transversely, some longitudinally, and some obliquely. Between these are masses of tissue consisting of small round and spindle cells, with abundant granular intercellular substance. Here and there throughout the section are small masses of adipose tissue. The tissue is moderately vascular, some of the vessels having well developed walls, and others having very thin or no true wall, resembling those usually found in sarcoma. Diagnosis: fibro-sarcoma.

October 8, 1884, inoculated two guinea-pigs with the fresh material in the left inguinal region, subcutaneously. A similar wound, without inoculation, was made just previously on a third guinea-pig, for control. All wounds were closed with catgut stutures, and healed per primam. January 2, 1885, one of the inoculated guinea-pigs found dead in box. On examination body well nourished, lymphatic glands not enlarged. No trace of tubercle in the internal organs or elsewhere. The other two guinea-pigs are well nourished, and show no glandular enlargements.

The patient herself shows no recurrence of the growth, and has full use of her hand. The function of the thumb is also perfect.

Dr. G. A. Peters remarked that the tumor which he extirpated was connected with the sheath of the tendon, and presented the appearances described by Dr. Weir.

Dr. T. M. Markoe then read a paper on

SECONDARY NERVE SUTURE.

(See page 285.)

Dr. Briddon referred to a paper which he read before the Society two years ago, and in which he reported a case of secondary suture of the ulnar nerve, performed several months after the injury, which was produced by the patient falling and striking upon a broken glass tumbler. At the operation a small piece of glass was found between the severed ends of the nerve, and the proximal end was bulbous. No benefit whatever was derived from the operation. The man died a year afterwards from phthisis, and at the time of his death there had been no return of either sensibility or motion. He was unable to obtain an autopsy.

Dr. L. A. Stimson thought that the long-delayed return of function was a point to be borne in mind constantly. In one of his own cases, injury of the musculospiral nerve was followed by complete motor paralysis which lasted for more than three years, and then was succeeded by complete recovery of function by the muscles supplied by this nerve.

Dr. Markoe thought that the question of the possibility of natural restoration should be always borne in mind, and it is quite possible that many cases operated upon would have recovered after a long period. It was this fact which induced him to wait until one hundred and thirty days in one of his cases before operating. There were not, so far as he was aware, any statistical statements of the results of section of nerves in which no operation was performed.

Dr. Poore asked with regard to the longest time that had elapsed after an injury in which an operation had been performed with any success.

Dr. Markoe replied that in Dr. Weir's case the operation was performed nine years after the injury, and in another case the operation was performed six years after the injury. Certain it was that some of these sections produced paralysis which was permanent. How we were to ascertain whether any given section would terminate in recovery or not, he was unable to say; and he thought, therefore, that, granting the possibility that the nerve might recover its power, the operation should be performed after waiting a reasonable length of time to see what nature could accomplish.

Dr. Poore remarked that about one year ago he saw a child eight years of age who, five years previously, sustained a fracture of the head of the radius, and the bone had united at an angle. At the time of the injury pulsation of the radial was lost, which was shortly followed by ulceration of the hand and arm, accompanied with total paralysis of the extensors, which has persisted, and at time of examination the muscles on dorsal surface of forearm were atrophied.

Dr. G. A. Peters asked if additional damage had been done in any cases by the operation.

Dr. Markoe replied that no further impairment of function had resulted from the operation, and in no instance had death occurred as a result of the operation.

The President called attention to two points in the technique of the operation. In his case he found great difficulty in overcoming the gap between the divided ends of the sciatic nerve which, after they had been trimmed off, were separated to the distance of two and a half inches, and which could only be overcome by liberating the nerve to a considerable extent and strongly flexing the limb; but, in addition to the sutures applied to the nerve itself, extraneous sutures in the soft parts outside were used, and were especially serviceable.

From the difficulty in approximating the ends of the nerve in that case, he was all the more disposed to resort to a suggestion that had been made, namely, to make a bayonet section in one of the nerves, splitting the nerve not quite to its free extremity, and turning it over and thus effecting the desired elongation. This has since been tried, and had been found to require the additional precaution in its employment, that when the nerve was so stretched a suture should be inserted into the free end to prevent it from tearing completely through.

CHOPART'S OPERATION.

Dr. L. A. Stimson presented a cast of a stump left by a medio-tarsal amputation, together with the dissected member. They were taken from a cadaver found in the dissecting-room. There is no history, but the stump was evidently an old one. The body was that of a man 50 or 60 years old. The cicatrix is horizontal, and fully half an inch above the line of pressure in walking. The face of the stump was covered with a thick, well-padded layer formed of the flesh of the sole; had a thick layer of epidermis; and showed no signs of present or previous ulceration. On dissection, the tibialis anticus was found much more wasted than the other anterior muscles, and its tendon was reduced to a small end adherent to the soft parts of the upper flap. The other anterior tendons were adherent to the cicatrix. The head was drawn upward, so that the anterior face of the os calcis was directed downward and forward, lying in a plane inclined about midway between the vertical and horizontal planes when the limb was erect. The astragalus showed a corresponding degree of plantar flexion, and the range of motion in the ankle-joint was about 10°. Its scaphoid articular surface was firmly attached to the flap. There was a small osteophyte on the upper outer anterior border of the os calcis. The stump appears to have been a thoroughly useful one, notwithstanding the well-marked plantar flexion.

Dr. Markoe remarked that the specimen illustrated in a striking manner one of the objections which had been urged against the operation, namely, change in the position of the heel.

Dr. Sands said that the cicatrix did not seem to have been presented to the ground.

Dr. Stimson remarked that the point of pressure was well protected.

Dr. Sands asked if the specimen did not rather refute than sustain the objection urged against Chopart's operation by showing that the retraction had not been such as to cause the cicatrix to come into contact with the ground in walking.

Dr. McBurney remarked that some time ago he presented to the Society a patient upon whom he had performed Chopart's operation, and the result did not exhibit any of the defects said necessarily to accompany the operation; that is to say, the patient had complete control over the bones of the foot left, and was able both to flex and extend the stump. He could also present the original plantar aspect of the foot to the ground. At that time he made a statement, which he still felt like adhering to, namely, that the greatest importance was to be attached to the manner of treating the stump immediately after the operation, and not to allow the limb to rest with the muscles at the back of the leg having entire control. The stump should be firmly flexed throughout the healing process, so that the anterior tendons will become attached as low down as possible.

Dr. C. A. Peters asked how the flexion was secured.

Dr. McBurney replied that it was secured by the application of a posterior splint, the part presented to the sole of the foot turned upward to the ankle and fixed it in that position. The immediate splint was made of pasteboard, and secured with plaster of Paris. Even upon the dead subject, when Chopart's operation was performed, if the limb was held free there would be a noticeable dropping of the os calcis, with a bending downward of the anterior portion of the stump.

Dr. Markoe remarked that he understood that the objection to the operation was not because the original stump presented a badly situated cicatrix, but that by the contraction of the gastrocnemius, and also from the irregular face of the os calcis, it was gradually pushed back and came finally to press upon the ground in an unfavorable position.

Dr. McBurney said that Dr. Sabine, in one of his recent visits to the West India Islands, found that the operation was performed in that locality very frequently for the relief of certain diseases which affected the toes of negroes, necessitating amputation of the anterior part of the foot. He was told by local surgeons that the results were good, and that they had never seen twisting of the os calcis upon itself. The patient whom he pre-

sented to the Society could run upon his stump, and he had never had any artificial support.

DR. STIMSON called attention to the fact that the preservation of motion of the ankle-joint diminishes the friction of the face of the stump against the ground in walking.

HYDATIDS OF THE LIVER AND MESENTERY; LAPAROTOMY.

THE PRESIDENT presented a specimen accompanied by the following history:

Richard H., a native of England, twenty-six years of age, resident of New Jersey, was admitted to the New York Hospital January 21, 1885. The patient's personal history is negative. There was no special history with regard to diet, although he preferred rare meat to that which was well cooked. In June last he first noticed that his abdomen was beginning to increase in size, and the fulness was first noticed over the region of the liver. There was no pain in the enlargement, and it inconvenienced him only on account of its weight and dragging. Whether the patient had had more than the ordinary association with animals, dogs and sheep, said to be infested with the parasite which gave rise to hydatids, Dr. Weir was unable to make out.

At the time of admission the patient was a rather thin but healthy looking man, weighing one hundred and fifty-eight pounds. His abdomen and lower part of the thorax were much distended. The circumference of the abdomen at the umbilicus was thirty-six and a half inches; at the lower border of the ribs thirty-nine inches. The right lower ribs bulged outwards very much more than the left. On palpation a large tumor, the size of a man's head, was felt in the right upper part of the abdomen, and another, nearly as large, occupying the lower part of the abdomen, and between these tumors another, about the size of an egg, could be distinctly felt, which was freely movable over an area of several inches. The large tumors extended over beyond the median line toward the left side for several inches. On palpation a sensation of fluctuation could be detected, but it did not apparently communicate from one tumor to the other. No hydatid fremitus detected. A hypodermic needle was introduced and perfectly clear fluid withdrawn, which was negative by microscopic examination. Examination of the urine was negative. Diagnosis of cystic tumor of the abdominal cavity, probably hydatid, and probably involving the liver. Whether the tumors were independent or united was a matter of some doubt.

The question arose mainly with reference to the treatment; that is, whether puncture or incision should be made. After considering the matter, Dr. Weir resolved to resort to incision, and on the 24th of January he made an opening through the abdominal wall two inches and a half in length in the epigastric region, and when the tumor was reached it showed itself as a thickened white mass. The peritoneum was first secured to the edges of the abdominal wound by sutures all round, and then a large-sized trocar was plunged into the cyst, but only a few drops of clear fluid escaped. Had he succeeded in obtaining fluid with the trocar, he had intended to draw the tumor up as high as possible, open it freely, evacuate its contents, and sew its walls to the peritoneal surface of the abdominal wound. After the canula was removed the edges of the opening were seized with the forceps and lifted up out of the incision, and the opening in the cyst was then enlarged to the size of the abdominal wound. Hundreds of amber-colored and transparent cysts escaped, varying in size from a pea to an orange. The quantity was not noted, as considerable escaped so that it could not be measured, but the entire quantity was estimated at from four to five quarts. The edges of the sac were then sutured to the external wound, and two large-sized rubber drainage-tubes inserted. Peat dressing was applied. The operation was begun with full antiseptic precautions, but had not proceeded far before the steam atomizer gave out, and it was continued without the further use of spray.

Jan. 25th, the patient complains of much pain in the head, and requires to be catheterized. January 25th, pain in the head continues, but the patient passes his urine. No peritonitis. Temperature rose this afternoon to 103.4°. The wound discharges hydatid cysts. Dressings are changed under spray when necessary. January 27th, urine contains about ten per cent. albumen. The wound was dressed under the spray, and more hydatid cysts were discharged. On the third day there was suppression of urine with elevation of temperature, and from this time the case progressed unfavorably, and the patient died ten days after the operation. On the eighth day after the operation the cyst cavity was washed out thoroughly with a bichloride solution, 1 to 5000. At that time it was discovered that the lower tumor was diminished in size. Until this time it had been considered a separate tumor.

The autopsy showed that the tumor was a large bilobed formation with a separate tumor which was in the mesentery, and that in the walls of this large mass, which had invaded completely the substance of the right lobe of the liver, quite a large number of hydatid cysts were found projecting into the abdominal cavity, so that if the patient had recovered it would have been only temporary. The liver was forced downward so that its upper surface looked forward and was adherent to the under surface of the diaphragm, and to the upper surface of the diaphragm the lower lobe of the right lung was adherent, a fact which pointed somewhat toward an effort of nature to effect evacuation of the tumor in this direction.

There were two points in the operation which Dr. Weir regretted not having observed. First, in not having made a more liberal incision in the abdominal walls for exploration, and into the tumor, by which it could have been evacuated more thoroughly, and which also would have enabled him to have lifted out more of the cyst wall and removed it. He believed that the patient's death was caused primarily by the noxious influence which all abdominal operations are apt to exert upon the kidney secretion, and, secondarily, by the septic processes in the contents, and that this latter could have been diminished by the removal of a large portion of the cyst. This would also lessen the chances of recurrence of such growths.

In the second place, it had been stated that kidney complications were more liable to occur in operations done under the spray of carbolic acid than when carbolic acid is not used. He did not think that the carbolic spray in this instance was a factor in the produc-

tion of a fatal result, as it gave out early in the operation; moreover, only a space of two and a half inches of cyst wall was exposed to its influence in even this short time. The renal symptoms occurred prior to the use of the spray employed when the dressings were changed.

Dr. G. A. Peters remarked that he was able to get a pulsation between the two large tumors, and regarded them as a single cyst.

CORRESPONDENCE.

DUDGEON'S SPHYGMOGRAPH.

To the Editor of The Medical News.

Sir: In a review of Bramwell's work on *Diseases of the Heart and Thoracic Aorta*, in the *American Journal of Medical Sciences* for January, 1885, "J. C. W.," after stating that the author gave preference, in writing of sphygmographs, to "the convenient and portable little instrument of Dudgeon," goes on to say, "We confess that the latter has been a disappointment to us." This comment induces me to think it worth while to call attention to the following slight addition which I have made to the instrument:

In the specimen of Dudgeon's sphygmograph which I obtained, attachment to the wrist was made by a strap and buckle. In adjusting the strap, I found difficulty in getting the proper degree of pressure, and in avoiding displacement of the apparatus. These difficulties I have obviated by the use of a small tourniquet placed upon the strap. With this addition the instrument is very easily applied.

The cost of the instrument in London is £2 2*s*, in New York (imported) $25. It would seem from these figures that it might be made here and sold, tourniquet included, for $20 or less. Its simplicity of construction (any watch-maker could repair it), cheapness, compared with the $40 Pond or $75 Marey instruments, etc., and with the above-mentioned addition, its ease of application, are very material advantages. Yours truly,

R. Van Santvoord, M.D.

26 E. 125th Street, N. Y City,
March 6, 1885.

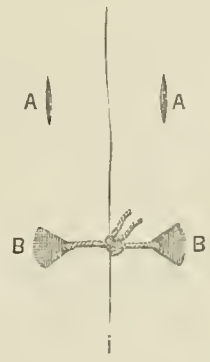
NEW INVENTIONS.

DESCRIPTION OF THE FLAT-CURVED NEEDLE AND OF A SUITABLE NEEDLE-HOLDER.[1]

By DR. HAGEDORN,
of Magdeburg, Europe.

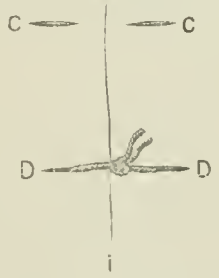
The needles which were formerly used for surgical sutures were either round or oval. They were curved on the surface flat, with a double cutting edge, and finished to a sharp point. The cutting edges and the flat surface were in the same plane. The small wound made by the puncture of the needle lay parallel with the edge of the united wound, as in Fig. 1, A. Such a punctured wound was, by tying the suture, converted into a triangular wound (see Fig. 1, B), and formed often a small fistula when the wound did not heal by first intention. As the needle point is smooth on the concave side of the curve, it loses strength and power of resistance, and is bent in hard tissues out of the course it was intended to follow. Besides this we have not had a needle-holder which would hold firmly and securely the needle without frequently breaking it.

Fig. 1.



The new needle, invented by Dr. Hagedorn, differs very much from the old needles. The sides are flatter, wider, parallel to one another, and also strong from point to eye. The anterior concave and posterior convex surfaces are smaller. The needles are also bent on the edge, and therefore are capable of withstanding more strain than other needles, which are bent on the flat surface. At the point the cutting edge is oblique on the convex side of the needle. The lower or inner border of the cutting edge is straight. The cutting edge is two or three times as long as the needle is wide. The needle point has nearly the shape of a broad cataract knife, if you suppose the back to be thick. This is important and necessary, because then the point of entrance of the needle remains in the same relation to the wound, and the cutting edges of the needle will produce widening of the canal through the opposing edges. If the point were lancet-shaped, strong pressure or accident might cause the needle to cut a canal undesirably close to the edge of the wound, or even through the edge. The puncture of this needle is a slit at right angle to the edge of the wound, like the button-hole on a coat (Fig. 2, C), which is closed by the knot on the thread. In many cases this flat needle will do less injury in suture of the nerves and tendons, which is not

Fig. 2.



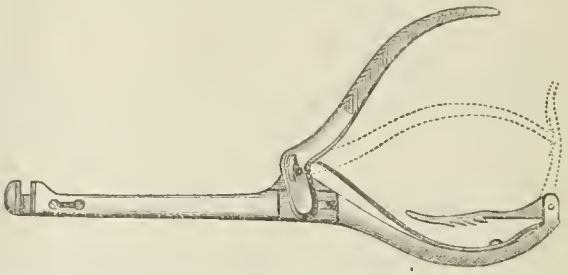
[1] Translated by R. S. Sutton, of Pittsburg, Pa.

unimportant. Moreover, this needle is easy to sharpen, because the point and cutting edge lie in the same line. It cannot be injured by pressure, and is easier to carry about. Only those needles for intestinal suture have an entirely round point, instead of a cutting edge. The eye on these flat needles can be made larger. It is a large, well-proportioned, wide, oval opening. Moreover, the end of the needle containing the eye is wedge-shaped, the outer end tapering off thin. On account of this, a strong double thread will follow the needle without difficulty through the canal it makes. On account of its construction, the needle can be fastened on any surface with security and firmness, and is very easily used (Fig. 3).

All the needle-holders now used secure curved needles in this manner, so that the flat surface of one jaw rests upon the concave surface and the other on the convex surface; therefore, by strong pressure, the needle is easily broken, and with weak pressure the needle slips out of the holder. This new, unique needle-holder presses on the broad sides of the above-described flat needles, and as the jaws of the holder remain continually parallel with each other, all flat needles of any curve can be fastened in the same manner; and breaking of the needle, by the strongest pressure with the needle-holder, is not possible. The needle can be fastened so well that one may hold it as if in a handle, and yet it is easy to loosen it. No other needle-holder fastens and fixes the needle at any desirable point with such a firm grip, and it is just as easy to catch it and hold it at the point. With some experience, it is possible just as easily to seize the needle with the needle-holder as to use another instrument, or the hand to assist in seizing it. In sewing, when the point of the needle has gone through one side of the wound, the point of the needle can be grasped by the holder without risk. One not only prevents accident by drawing the needle through, but protects the surrounding soft parts from injury, which is important in sewing in a cavity. Hence it is possible that the holder seize the needle from its concave border, and, while the cutting edge lies on the convex side, both the cutting edge and point are secure from any pressure.

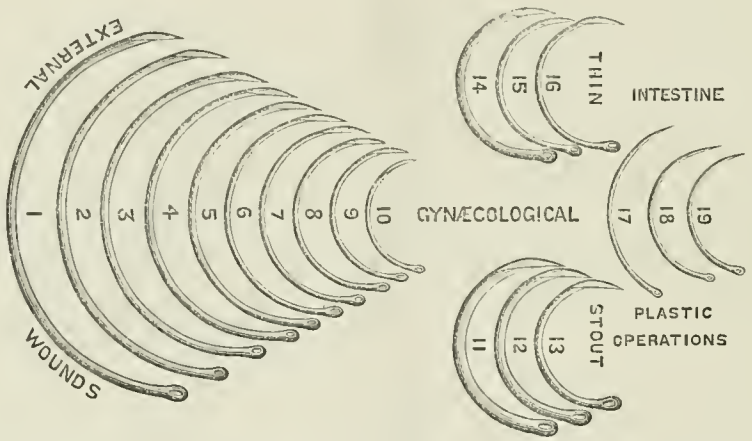
The needle-holder (Fig. 4) is made from a small piece of iron, ending in a handle, to which is attached a second piece, shorter and movable. The two pieces at their front ends form the jaws of the holder, which stands at

Fig. 4.



right angles to the axis of the instrument. The inner surfaces of the jaws are plated with copper. The movement of the two pieces on one another opens and shuts the jaws. This action is produced by means of a movable handle acting as a lever, which is fastened by a joint to the immovable handle. A serrated snap, which can be used or not, binds the two hand-grips together. Strong pressure with the full hand is sufficient to fasten any flat needle. The thick needle is firmly held at the first tooth of the snap; thinner ones by the lower teeth. Slight pressure of the little finger on the end of the snap easily loosens it and lets the needle loose. One must remember that the needle lies in the long diameter of the jaws, and lies firmly fixed on the piece of iron between the jaws. Therefore the needle has an additional support, and cannot change the position of its concave side, which it is inclined to do in cutting through. Moreover, the curved needle is easily adjusted, if one brings the jaws of the holder against the concave side of the needle, as is proper, and then turns the holder a little to the right before fastening the needle in the jaws. *Then only, if the needle is fastened in this manner, and the eye end of the needle shaft lies against the piece of iron behind the jaws, is the fastening of the needle absolutely safe.* The holder takes in little space, and is easily handled.

Fig. 3.



But for our particular suture, what is already said is not sufficient, if one wishes to apply a suture deep in a cavity in the sagittal plane of the body, for instance in a vesico-vaginal fistula high up. For such cases the sides of the

jaw, and consequently the opening between, stand obliquely, firmly fixed to a long handle; in this way a very oblique opening between the jaws is obtained. By reason of the obliquity of the opening, it is possible to apply such a suture if one will only turn the handle a little to the side. The catching and holding the point of the needle by this oblique opening between the jaws is not so easy as with the other holder, but is sufficiently easy after a little practice. For the various purposes, longer or shorter holders will be required.

1. The ordinary, 6½ in. long, strong holder, of which the mouth is $\frac{8}{25}$ in. wide, and ¼ to ⅓ in. deep, is sufficient for all ordinary surgical purposes, and can be used daily for years without repair.

2. The smallest, 5 in. long, holder, of which the mouth is ¼ in. wide and ⅓ in. deep, is for plastic and ocular operations, as well as for intestinal operations.

3. For practising physicians, who prefer to combine in one instrument the advantages of both needle-holders, not requiring to sew so much, an intermediate size would be desirable, which is 6 in. long, and in the mouth $\frac{7}{25}$ in. wide, and ¼ in. deep.

For gynecological and operations in deep cavities, the following sizes are suitable:

4. One, 8 in. long in the mouth, $\frac{7}{19}$ in. broad, and ⅓ in. deep; and,

5. One, with oblique mouth, $8\frac{2}{5}$ in. long; in the mouth $\frac{9}{25}$ in. wide, and $\frac{8}{25}$ in. deep.

As the flat curved needles, made in every form, possess many advantages which other needles do not possess, they are used in every form and of every strength; so this holder, with suitable needles included, will be found a suitable sewing instrument for any demand. In practice these needles have already found approval. Prof. Bardeleben (text-book for surgery and surgical operations, 8th edition, 1879, vol. i., addition to page 125) says, "If one perforates the margin of a wound with a double-edged cutting needle, the small wound produced is parallel with the edge of the wound, and gaps, in a triangular form, when the sutures are secured. One should always introduce a straight needle, so that one of the cutting edges looks towards the wound, the other away from it, and the wound through which the suture passes should stand at right angles to the wound when closed. To do the same with curved needles, Hagedorn has contributed an excellent apparatus, in which only the point and convex side of the needle cuts, and the whole results from side to side is flat, and a needle-holder accompanies these needles."

Prof. Fritsch (*Krankheiten der Frauen*, 2d ed., page 112) says: "As a needle-holder for all gynecological operations, I recommend highly Hagedorn's needle-holder. After many years of experiment, and having constructed many instruments myself, I have turned away from all, my own included. I cannot too highly recommend Hagedorn's needle-holder to the gynecologist. The needle-holder with straight mouth is employed for plastic operations; the one with the oblique mouth is to be preferred in operating in deep cavities and on irregular fistules, Fig. 56."

Prof. Olshausen writes, in his recently issued *Klinishen Beiträgen zur Gynäkologie und Geburtshülfe*, page 32, concerning operations on the cervix uteri, "The most useful needles to be recommended for these operations are the flat Hagedorn's needles, with an appropriate needle-holder. These only are able to afford the many demands which will be made by the severe bending pressure in operations in dense cervical tissue."

In Dr. Wittelhöfer's *Wiener med. Wochenschrift*, No. 33, 1883, Dr. Riedel, Oberartz der Chirurg of a department of the city hospital in Aix la Chapalle, expresses himself concerning utero-vesical and vesico-vaginal fistulas: "I use exclusively for sutures the Hagedorn's holder, with oblique mouth, and his flat needles. I do not think that any one who has worried himself with Simon's and other needle-holders will ever abandon this beautiful instrument, which is extraordinarily useful in all operations in deep cavities."

NEWS ITEMS.

MONTREAL.

(*From our Special Correspondent.*)

Ontario Anatomy Act.—For some years past there has been a great scarcity of subjects for anatomical purposes in the medical schools of Toronto. The students have yearly increased, but the amount of anatomical material has decreased. Never was it so inadequate as during the present session. To remedy this state of affairs a revised Anatomy Act has been framed, and will be shortly introduced into the Provincial Legislature. It provides that the bodies of those dying in public institutions, or found dead and not claimed by relatives or friends who are willing to bear the funeral expenses, shall be handed over to the medical schools for anatomical purposes. As during the past year over one hundred corpses were buried at the expense of the City of Toronto, it is thought that if this amended act passes the supply of anatomical material will hereafter be abundant.

The Annual Examination for the license of the College of Physicians and Surgeons of Ontario commenced at Toronto and Kingston on Tuesday, April 7th.

Dr. Lovell has been appointed Warden, and Dr. O. S. Strange, Surgeon, of the Kingston Penitentiary.

The Hon. Dr. Robitaille, ex-Lieutenant-Governor of the Province of Quebec, has been appointed to the Dominion Senate.

Nephro-lithotomy.—Prof. L. McLane Tiffany performed the operation of nephro-lithotomy on February 21st, at the Hospital of the University of Maryland, upon a male, aged 26. The stone, which weighed 556 grains, was removed from the pelvis of the right kidney. The *Maryland Medical Journal* reports the patient as doing well.

Bellevue Hospital Medical College.—The Twenty-fourth Annual Commencement of this Institution was held in the Metropolitan Opera House, New York, last Monday evening. Ex-Congressman Dorsheimer delivered a short address, in which he referred to the new pathological laboratory, built through the generosity of Mr. Andrew Carnegie. Mr. Carnegie subsequently delivered the address to the graduates. He was received by the class with a treble cheer, to which the audience added their applause. Dr. Isaac

E. Taylor conferred the degree of M.D. upon one hundred and thirty-four graduates.

University of the City of New York.—At the Annual Commencement of the Medical Department of the University held on March 10, the degree of M.D. was conferred on one hundred and seventy-five candidates.

University of Tennessee.—At the Annual Commencement of the Medical Department of the University of Tennessee, held at Nashville, February 24th, the degree of Doctor of Medicine was conferred on fifty-nine graduates of the institution.

University of Nashville.—The degree of Doctor of Medicine was conferred upon one hundred graduates of the University of Nashville and Vanderbilt University at the annual commencement, held at Nashville February 26th.

Memphis Hospital Medical College.—The Fifth Annual Commencement of the Memphis Hospital Medical College took place on February 25th. Thirty-three graduates received the degree of M.D.

The Arkansas Industrial University.—The Sixth Annual Commencement of the Medical Department of the Arkansas Industrial University, at which eight graduates received the degree of M.D., took place at Little Rock, March 4th.

Court Martial of Ex-Surgeon-General Wales.—The court martial to try Ex-Surgeon-General Wales, of the U. S. Navy, on the charges of culpable inefficiency and neglect of duty, met on Monday, and upon the request of counsel adjourned until April 14th, to give time for preparation of the defence.

Marine Hospital Service.—The Secretary of the Treasury, on Tuesday last, appointed Surgeons Bailhache, Purviance, and Austin, a board to examine applicants for appointment as Assistant-Surgeon in the Marine Hospital Service, to meet in Washington on March 23.

Dr. Osler's Gulstonian Lectures.—This year's lenten lectures at the Royal College of Physicians, London, were opened on Thursday, February 26th, by Dr. Osler, of Philadelphia, who choose for the subject of his Gulstonian Lectures the fascinating disease known as ulcerative endocarditis. His first lecture was devoted to the naked eye and microscopic pathology of the affection, its clinical history and etiology being left for discussion in the lectures to be delivered on Tuesday and Thursday in the following week. The lecture was mainly *ex tempore*, lasted the ideal forty-five minutes, and was unusually well attended. Dr. Osler, as might have been expected, was most cordially greeted, and there can be no doubt that his lecture was such as was well worth while his coming across the water to deliver. —*London Medical Times*, February 28, 1885.

Koch's Laboratory.—Under the terms of the liberal grant of money made by the German Government for the prosecution of his investigations of the cholera germ and related subjects, Dr. Koch is to admit thereto small classes of the medical men of Germany, for the purpose of studying the comma-bacillus and its method of cultivation. Through the efforts of Minister Kasson and the courtesy of Prince Bismarck, Dr. George W. Lewis, of Buffalo, N. Y., has also been admitted to these classes, and in the current number of the *Buffalo Medical and Surgical Journal* he publishes an account of Dr. Koch's cultivation experiments.

Obituary Record.—Died, in this city, on March 10, Ellerslie Wallace, M.D., Emeritus Professor of Obstetrics and Diseases of Women and Children in Jefferson Medical College, Philadelphia. Dr. Wallace was born in this city on June 15, 1819. He received his education at Bristol College, and was engaged for a time in the profession of civil engineer. He studied medicine in the office of his brother, Joshua Wallace, who, at the time, was Demonstrator of Anatomy in the Jefferson College, and graduated at that institution in 1843. After graduation Dr. Wallace was appointed Resident Physician at the Pennsylvania Hospital. In this place he remained three years, when in 1846, he was selected as Demonstrator of Anatomy in Jefferson College, a position which he held until 1863. In the latter year he was elected to the chair of Obstetrics, rendered vacant by the resignation of Dr. Charles D. Meigs, and he filled the duties of that position until June 1883, when he retired on account of failing health. He also filled the office of Dean at the College. Dr. Wallace had been in bad health for some months past, but the immediate cause of death was an erysipelatous affection of the face and head. Dr. Wallace was a fluent lecturer, and a popular teacher, and was much beloved by his class.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MARCH 3 TO MARCH 9, 1885.

Byrne, Charles C., *Major and Surgeon.*—Ordered to Department of the East, on expiration of his present leave of absence. —*S. O. 50, A. G. O.*, March 3, 1885.

Brown, H. E., *Major and Surgeon.*—Granted leave of absence for one month, with permission to apply for two months' extension.—*S. O. 48, Department of the East*, March 6, 1885.

Woodruff, Ezra, *Captain and Assistant Surgeon.*—Ordered for duty at Fort Maginnis, Montana Territory—*S. O. 23, Department of Dakota*, February 25, 1885.

Porter, J. Y., *Captain and Assistant Surgeon.*—Sick leave of absence further extended fourteen days on account of sickness. —*S O. 51, A. G. O.*, March 5, 1885.

Ewing, C. B., *First Lieutenant and Assistant Surgeon.*—Having relinquished unexpired portion of leave of absence, ordered for temporary duty in the field.—*S. O. 23, Department of the Missouri*, March 2, 1885.

Raymond Henry I., *First Lieutenant and Assistant Surgeon* (recently apppointed).—Ordered for duty in Department of California.—*S. O. 50, A. G. O.*, March 3, 1885.

The Medical News *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the News *should be addressed to No. 1004 Walnut Street, Philadelphia.*

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. XLVI. SATURDAY, MARCH 21, 1885. NO. 12

ORIGINAL LECTURES.

GULSTONIAN LECTURES.
ON MALIGNANT ENDOCARDITIS.

Delivered at the Royal College of Physicians, London, on Thursday, February 26, 1885.

BY WILLIAM OSLER, M.D.,

PROFESSOR OF CLINICAL MEDICINE AT THE UNIVERSITY OF PENNSYLVANIA, PHILADELPHIA.

LECTURE I.

MR. PRESIDENT AND GENTLEMEN: It is of use from time to time to take stock, so to speak, of our knowledge of a particular disease, to see exactly where we stand in regard to it, to inquire to what conclusions the accumulated facts seem to point, and to ascertain in what direction we may look for fruitful investigations in the future. With your permission, Sir, I propose to do this in the case of that most interesting disease generally known as ulcerative endocarditis, a disease the phenomena of which were first clearly explained by the late Dr. Kirkes, from whose investigations, in 1851–52, we date our accurate knowledge of the affection. Some of those who listen to me to-day can doubtless recall, and recall with pleasure, the Gulstonian Lectures of 1851, in which Dr. Ormerod dealt so fully and so ably with valvular affections of the heart; but a reference to them will show how much the past twenty-five years have done to widen our view of cardiac disease, more particularly in regard to the effects of emboli and the association of valvular inflammation with grave constitutional disorder, and the probable connection of the disease with the presence of microörganisms. By the labors of Drs. Ogle, Wilks, Simpson, Moxon, Bristowe, and others, in this country; of Charcot, Vulpian, and Lancereaux, in France; and of Virchow and a host of observers, in Germany; a large amount of material has been accumulated, and we may assume that the etiological, clinical, and anatomical characters of the disease have been fairly well ascertained, and that we have got about as far towards a full knowledge of the affection as the ordinary means at our disposal will permit. The inquiry now enters upon another stage, and it remains for experimental investigation to determine, if possible, the relation of the endocarditis to those diseases with which it is most frequently associated. This being the case, the present time has seemed to me a favorable opportunity to summarize our knowledge to date, and for this purpose I have reviewed the records of over two hundred cases, which, from the description of the symptoms and lesions, were evidently of the type of malignant endocarditis; and these, with the considerable experience I have had at the General Hospital at Montreal, may perhaps enable me to give a somewhat more comprehensive account, in some respects, than has yet been attempted.

In discussing the subject of endocarditis we are met at the outset by difficulties of nomenclature and classification. The designation *acute* may be used to indicate those forms which are accompanied by proliferation of and exudation upon the endocardial surface, with or without loss of substance, as opposed to *chronic*, in which there are sclerotic changes without vegetations. Subdivisions of the acute form have been arranged on an anatomical basis as the terms *plastic*, *papillary*, *verrucose*, *fungous*, *ulcerative*, indicate. On the other hand, from an etiological point of view, the forms of endocarditis are as numerous as the diseases in which it occurs, and we constantly hear the expressions *puerperal*, *rheumatic*, *scarlatinal*, etc. Some speak of primary and secondary forms, while from a clinical standpoint they are arranged in two classes, simple and grave. Anatomically there appear to be no very essential differences in the various forms of acute endocarditis. Between the small papillary excrescence and the huge fungating vegetation with destructive changes all gradations can be traced, and the last may be the direct outcome of the first; the two extremes indeed may be present in the same valve. They represent different degrees of intensity of one and the same process. A classification of cases based on the ordinary macroscopic characters of the inflammatory products into warty or verrucose and ulcerative will in many instances group together cases widely different [in their clinical aspects, and contrariwise, a clinical subdivision into cases of simple and cases of malignant endocarditis by no means of necessity implies that the lesions in the former case are all of the plastic or warty variety, and in the latter of the ulcerative or destructive. The term *ulcerative* has come into very general use to describe the grave form, and it expresses well an anatomical feature present in a large proportion of cases; but in others it is very inapplicable, as there may be no actual loss of substance, and no more destruction than occurs in the verrucose form; and, on the other hand, there may be great destruction and ulceration from causes of an entirely different nature. The numerous other terms employed, *septic*, *infectious*, *diphtheritic*, *mycosis endocardii*, *arterial pyæmia*, while each expressing some special feature, and so far suitable, have never come into very general use. On the whole, it seems to me that the names *simple* and *malignant*, which we use so often to separate the milder and severe forms of many diseases, might appropriately be employed in describing the cases of acute endocarditis; the *simple* being those with few or slight symptoms, and which run a favorable course; the *malignant* the cases with severe constitutional disturbance and extensive valve lesions, whether ulcerative or vegetative, the term being more clinical than anatomical.

Malignant endocarditis occurs under the following conditions: 1. As a primary disease of the lining membrane of the heart or its valves, either attacking persons in previous good health or more often attacking the debilitated and dissipated or those with old valve

lesions. 2. As a secondary affection in connection with many diseases, particularly rheumatic fever, pneumonia, scarlet fever, diphtheria, ague, etc. 3. As an associated condition in septic processes, traumatic or puerperal. We shall discuss first the anatomical characters, then the clinical features, and lastly the etiological and pathological relations.

The lesions of malignant endocarditis are by no means uniform, and may be vegetative, ulcerative, or suppurative; and these various forms may occur alone or in combination. The belief that there is always ulceration has led to some confusion, and we must recognize that there are cases with the clinical history of the malignant form in which, post-mortem, the valvular condition has been that of a severe vegetative or verrucose endocarditis. Such a case was a lad aged eleven, a patient of Dr. Molson's, from whom I obtained the specimen which I pass round. He had chorea in July, 1880, the second attack. Rapid movement and recovery under Fowler's solution five minims every four hours hypodermically, took place. There was a slight murmurish condition of the first sound. When seen again on March 3, 1881, the chorea had returned, having begun ten days before. The patient improved until the 10th, when he began to get feverish; had exacerbations each evening; temperature rising to 104° F. He became unconscious. There was slight paresis of the left side, and death took place on the 16th. The temperature on the 15th was nearly 106°. There were irregular, soft, grayish-white vegetations on the mitral valve, infarcts in spleen and kidneys, and a small spot of red softening in the right corpus striatum. These photographs from a case of Dr. Musser's, illustrate a more advanced condition of the same kind; the vegetations were larger and more abundant, and some were a little irregular and soft on the surface, but unless a mass was removed no actual loss of substance was seen. Even in the smallest vegetation there is some destruction of endocardial tissue, if only of the endothelium and superficial layer, while the larger outgrowths are more deeply set in the valve, or may involve the entire thickness. More commonly with or without vegetations there is ulceration, the frequency of the occurrence of which has given the name most often attached to this form of endocarditis. The loss of substance may be superficial, involving only the endocardium, or it may be deep and destructive, leading to perforation of a valve, of the septum, or of the heart itself. On the valves extensive outgrowths usually accompany the process, and may conceal the ulcer or project as fungating masses from its edge, as is well illustrated by this colored drawing. In many instances the process appears simply ulcerative, without any vegetations to speak of. In the slightest form only a superficial abrasion exists, perhaps scarcely recognizable, in others a process of erosion may go on by which half a valve may be destroyed, or there may be (as shown in this drawing) a deep excavation extending beyond the valves and destroying the muscle substance of the heart, leading to perforation of the septum of the wall of the ventricle. These are well-known features, however, upon which I need not dwell. In two instances I have seen superficial necrotic changes without ulceration or vegetations, circumscribed patches, the size of a sixpence, opaque yellow-white in color, resembling the necrotic pleura, over a pyæmic infarct of the lung or portion of dead peritoneum at the base of a deep typhoid ulcer. Doubtless these would in time have formed ulcers. I find this condition noted by one or two observers. Lastly, the process may be suppurative, in which case the deeper tissues of the valve appear first involved and the endocardium only implicated by contiguity. The occurrence of small abscesses at the base of extensive vegetations is not uncommon, but there are also instances in which the suppuration seems the initial step. The combination of ulcerative and fungating outgrowths is perhaps the most common condition. The vegetations vary a good deal in appearance and consistence. Soft grayish-white masses with roughened friable surfaces, to which thin blood-clot adheres, are numerous, or there may be large cauliflower excrescences with deep jagged fissures; or again, long pendulous stalactitic masses. In the latter form we often see, as Dr. Moxon pointed out, the effects of friction, and such a long vegetation from an aortic cusp may produce by contact a whole series of smaller outgrowths along the ventricular wall. The pressure of the valves against each other and the action of the blood tend to loosen and break the vegetations, and one can sometimes see where masses have been torn off either entire or by a gradual process of disintegration. Considering the force with which the valves come together it is curious that the soft vegetations, occupying, as they generally do, the lines of closure, can resist the constant compression to which they are subjected. Some vegetations present a remarkable greenish-gray or greenish-yellow color. Changes in a conservative direction may go on when the disease is much prolonged. Fibroid induration may take place in the deeper parts, while the superficial portions remain unchanged and necrotic, perhaps also getting a little harder and shrinking. Such a process can be seen in this specimen of endocarditis from an ox, in which there were most extensive vegetative and destructive changes. Not unfrequently the vegetations are gritty from the deposit of lime salts, which may take place in very acute cases, and is not necessarily an indication of age. It is interesting to note how often inorganic material is deposited in the neighborhood of microörganisms, as here on the endocardial outgrowths, in the tonsillar crypts, and about the tufts of actinomyces. Two conditions must be distinguished from the lesions of malignant (mycotic) endocarditis; the atheromatous degeneration in sclerotic valves, which leads to ulceration and extensive destruction of segments—a process which has nothing in common, except in its effects upon the valves, with the acute ulcerative changes above described, but is similar to the atheromatous processes in the aorta. It must not be forgotten, however, that an acute mycotic process may be engrafted, and indeed often is, upon old sclerotic valves, the seat of atheromatous changes. The firm white globular thrombi of the auricular appendices and of the interstices of the columnæ carneæ of the ventricles, have sometimes an appearance closely resembling endocardial outgrowths, and when softened in the centre and ruptured the resemblance may be very close indeed. It is possible that the granular débris of an atheromatous abscess or a softened thrombus may possess irritating properties when discharged into the blood.

Histological characters.—The study of a small fresh endocardial vegetation shows it to be made up of cells derived from the subendothelial layer, round and fusiform, which by their proliferation have produced a small nodular projection on the surface of the endocardium. Varying with the rapidity of the growth, the mass will present the characters of a soft granulation tissue or a tolerably firm fibrous outgrowth. Usually the round cells predominate, but there may be many elongated, spindle-formed cells with three or four processes. What part the endothelium plays in this growth has not been determined. Tiny outgrowths may be seen in which the process appears to be entirely subendothelial, but usually before the mass attains any size the smooth surface is lost, and there is deposited upon it a cap of fibrin in the form of a granular, sometimes stratified, material, of variable thickness. Though this resembles an ordinary coagulable exudation, it is probably deposited directly from the blood, and is of the nature of a thrombus. Upon and in this layer may be found, sometimes in large numbers, those remarkable little bodies which have so long been known, when collected together, as Schultze's granule masses, and which have of late become so prominent as the blood-plates of Bizzozero and the hæmatoblasts of Hayem. Occasionally they are very abundant, and I have seen soft warty vegetations composed (superficially) in great part of them. As their connection with endocardial and endarterial outgrowths has not, so far as I know, been referred to, I may be permitted to call attention to these two drawings, which further illustrate this point. The first represents the aorta from an old man dead of carcinoma, in which just above the bifurcation three irregular masses are shown, one nearly an inch in length, which projected fully a quarter of an inch from the intima of the vessel. They were attached to atheromatous ulcers, were soft, grayish-white in color, and were composed exclusively of the elements of Schultze's granule masses, with fibrin fibrils, and here and there a few white corpuscles. The second drawing illustrates a small aneurism of the aorta, which has perforated the œsophagus. On the wall of the sac the artist has represented a number of irregular whitish lines, which were narrow elevated ridges, also made up microscopically of these small discoid elements, the connection of which with fibrin formation has been so strongly insisted upon by Bizzozero. Scattered in and beneath the fibrinous exudation are numerous small granular bodies, which have the appearance and reaction of micrococci.

The larger vegetations, more characteristic of malignant endocarditis, consist of a granular material composed of altered and dead tissue elements, fibrinous exudation, and colonies of micrococci; the deeper parts present the appearance of a granulation tissue, while at the attachment in the valve there is always more or less infiltration and increase of the cell elements. The granular substance is structureless, and resembles diphtheritic exudation, the resemblance at times being so close that one can readily understand the application of the term "diphtheritic" to the inflammation. It may be distinctly laminated, and with a high power fine filaments can be seen, though usually the granules conceal all appearance of structure. Strands of translucent material may occur throughout the mass, as if portions had undergone a sort of hyaline transformation. In some instances this is very marked. Pale spheres filled with granules also occur, and may be very abundant. They have been described as colonies of micrococci, but some regard them as altered endothelial elements. I have seen them too numerous to be explained on this view. At the attachment of the vegetation there is a zone of tissue deeply infiltrated with leucocytes, and deeper still the tissue elements of the valve present an increase of nuclei and cells. The destruction of tissue appears to result in two ways: first, a gradual extension inwards of the necrotic process, doubtless induced by the micrococci; secondly, the softening and separation of valve tissue caused by the rapid development of leucocytes at the base of the vegetation.

The micrococci are constant elements in the vegetations. All granules of a uniform size met with in the sections are not microörganisms, nor, indeed, are all which stain by some methods recommended for the detection of these bodies. By far the most satisfactory method is that of Gramm,[1] in which the section after staining in gentian violet, is transferred for a few minutes to a dilute solution of iodine and iodide of potassium, and then to the alcohol, when it is found that the color has been extracted from all tissue elements and nuclei, leaving only the microörganisms stained. They vary a good deal in number and arrangement, and may be scattered singly in the granular substance or arranged in groups. They are usually very numerous at the deeper part of the vegetations, just where the structureless material joins the granulation tissue, and they may penetrate deeply into the substance of the valve. Sometimes the smaller vegetations seem made up exclusively of them. Several of my specimens appear to confirm the view of Klebs,[2] that the micrococci lodge first on the endocardium and penetrate into the substance, often as distinct columns. In their immediate vicinity there is a zone of necrosis, and beyond this an accumulation of leucocytes and signs of reactive inflammation. The microörganisms found in connection with malignant endocarditis are not all of the same kind. Klebs distinguishes two forms, one met with in septic, and the other in rheumatic cases. In some instances the micrococci are all arranged in zoöglœa-like masses, in others, particularly the septic cases, they are in chaplets. Some present distinct capsules. Small elongated bacilli have also been found; I have seen them in one instance—short, stout rods often joined in pairs. Delafield and Prudden[3] have recently noted the presence of bacilli in the vegetations of a very acute case of malignant endocarditis. Cornil, in a recent lecture,[4] stated that the bacillus tuberculosis had been found in the vegetations on the valves in cases of phthisis, and expressed the opinion that before long we should have accurate knowledge of a variety of microörganisms in endocarditis depending upon the nature of the primary disease. By culture experiments alone can we hope to have the question settled.

The following figures give an approximate estimate of frequency with which different parts of the heart are affected. The aortic and mitral valves were affected

[1] Fortschritte der Medicin, Berlin, Bd. i.

[2] Archiv. f. Experiment. Pathologie, Bd. vi.

[3] Text-book of Pathological Histology, New York, 1885.

[4] L'Abeille Médicale, No. 51, 1884.

together in forty-one cases, the aortic valves alone in fifty-three, the mitral alone in seventy-seven, the tricuspid in nineteen, the pulmonary valves in fifteen, and the heart-wall in thirty-three. The right heart is rarely affected alone, in only nine instances, in which five the tricuspid and four the pulmonary valves were involved. The valves are most often attacked along the lines of closure, as in simple endocarditis, the auricular faces of the mitral flaps and the ventricular surfaces of the aortic cusps suffering most severely. Mural endocarditis is most often seen at the upper part of the septum of the left ventricle, just below the aortic ring, in which situation some of the most extensive and deep cardiac ulcers occur, leading to perforation of the septum. Next in order is the endocardium of the left auricle on the postero-external wall, as noted by Lepine.[1]

The local effects of the ulcerative changes are important. Perforation of a valve segment is extremely common, sometimes there is a clean-cut, punched-out hole with scarcely any irregularity of the edges; more frequently, however, there are great fungous vegetations which completely close and conceal the perforation. Erosion of the chordæ tendineæ is frequently met with, and an entire group passing to the papilla may be destroyed, the ends curled and encrusted with vegetations. Ulceration of the heart muscle leading to perforation of the septum or of the wall of a chamber is a much less frequent occurrence. I have collected notes of eleven instances; three of the septum close to the aortic ring. Ulcers at the aortic ring perforated the left auricle in three instances, the right auricle in one, and the right ventricle in one. In a remarkable case of Dr. Stephen Mackenzie[2] the left ventricle was perforated by an ulcer at the apex. In a case of Dr. Curnow,[3] the ulceration extended between the coats of the aorta, and then perforated into the lumen of the vessel, and in one of the Montreal cases there was perforation of an aneurism of the aorta by ulceration, an instance of extensive ulcerative endarteritis with the production of multiple aneurisms. Another common result of ulceration is the production of valvular aneurism. The anterior flap of the mitral is most frequently affected, and then the aortic cusps. In the records of the cases which I have reviewed, I was surprised not to find this condition noted oftener, only in about 12 per cent. of the cases; but in very many cases the record of the anatomical condition was meagre. I shall not refer further to this interesting point, as Dr. Legg has dealt with it very fully in a recent lecture at this College.[4] I may observe, however, that the atheromatous ulceration is also a frequent cause of aneurism of the valves.

It was Sir James Paget,[5] I think, who first referred to the frequency with which sclerotic and malformed valves are attacked by acute disease. Chronic valvulitis is met with in a large number of cases of malignant endocarditis. The records which I have examined give only a percentage of about twenty-five, but the condition of the valves, except as regards ulceration, was often omitted, and this represents a very much smaller percentage than actually occurs. In more than three-fourths of the Montreal cases sclerotic changes were present, and Dr. Goodhart found[1] in a series of sixty-nine cases that sixty-one presented old thickening of the valves. In very many of the cases the condition of fusion of two of the aortic cusps was present. This abnormality is almost invariably accompanied by sclerotic changes, and to the existence of these is probably due the frequency with which they are attacked by ulceration. In seventeen instances of fusion of two of the aortic cusps, of which I have notes, there were ulcerative changes in eight, in two or three of an atheromatous nature.

In a few instances the aorta is involved with the heart. The most frequent site is the sinuses of Valsalva, the vegetations growing through the segments spread on to the aortic wall, or it is affected by friction. It is rare for the vegetations to extend into the arch. I have met with one remarkable instance of ulcerative endocarditis in which there was also ulcerative endarteritis, involving the arch and producing multiple aneurisms. The specimen which I here demonstrate was taken from a man about thirty, who had been the subject of syphilis and was known to have had aortic incompetency for some time. He was admitted to the General Hospital, Montreal, on June 4, 1880, with diarrhœa, chills, headache, cough, and fever. Temperature 104°. There were signs of pneumonia at the left base. He became delirious, a low typhoid condition supervened with chills at intervals, and death took place on July 1st. The aortic valves were curled and hard, and presented extensive recent vegetations, the arch of the aorta presented four aneurisms, three small, not larger than cherries, and one the size of a billiard ball. The small ones were not noticeable as aneurisms from the internal surface, but presented the appearance of fresh fungous vegetations, on separating which little slits could be seen leading to saccular dilatations of the middle and outer coats. The large aneurism was thin-walled with no laminated fibrin, and presented at the edges of the orifice and over the whole lining membrane of the sac, many grayish-green vegetations, some of which had perforated the sac and caused a rupture into the pericardium. It may be presumed that in this instance the ulcerations led directly to the production of the aneurisms, certainly in the case of the smaller ones, and the larger sac presented a condition of mycotic endarteritis unique in my experience of aortic aneurisms.

Of associated pathological changes we have, in the first place, those connected with some primary disease, to which the endocarditis is in the majority of cases secondary. Thus, in the endocarditis of septic processes there is the local lesion, a suppurating wound, a phlegmonous inflammation, or puerperal processes of a septic nature. In a very considerable proportion of cases there is evidence of recent pneumonia, in others rheumatic affections of joints, and in a few diphtheritic processes. In the group of primary cases the lesions are entirely those of endocarditis, local and general. In the second place, there are the extensive pathological changes due to embolism, and these constitute interesting features in the disease, and may produce a

[1] Bull. Soc. Biologie, 1869.
[2] Pathological Society's Transactions, vol. xxxiii.
[3] The Lancet, 1883, vol. i.
[4] Bradshawe Lecture, 1882.
[5] Medico-Chirurgical Transactions, vol. xxvii.

[1] Pathological Society's Transactions, xxxiii.

very great variety of lesions in every portion of the body. I do not propose to deal very fully with these, but to call attention only to some special points. The cases may be divided into those without any embolic processes, cases in which the infarcts are simple, not suppurative, those in which there are innumerable suppurative infarcts, and cases in which some of the infarcts are simple and some suppurative. It is remarkable how variable these embolic features are. They may be entirely absent in well-marked malignant cases. They are not necessarily associated with suppuration; indeed, in a very considerable number of cases they present the characters of ordinary hemorrhagic infarcts, but in the traumatic and puerperal cases the infarcts are invariably septic. They may be few in number, only one or two perhaps in the spleen or kidney, or they may be in thousands throughout the various organs of the body. When suppurative, micrococci, in my experience, are always present; but the micrococci may exist in the vessels without inducing this change. In severe forms of the disease hemorrhages are very frequent upon the skin, serous and mucous surfaces. The cutaneous ones will be referred to again in connection with the symptomatology. They appear, in many instances, to be due to the effect of the poison, just as in other infectious diseases; in others they are undoubtedly embolic, and a minute necrotic or suppurative centre can sometimes be seen. In the membranes of the brain I have twice met with extensive superficial extravasation. Litten[1] has called attention to the frequency of retinal hemorrhages, particularly in the endocarditis of puerperal sepsis. In some instances there are innumerable miliary abscesses, more particularly in the heart and kidneys. They are often associated with hemorrhage, and the smaller ones look like little extravasations, but the presence of micrococci and suppuration can be easily determined in stained sections. The spleen is most often the seat of infarction, and next in order the kidneys. The lungs are usually affected when the endocarditis is on the right side, and there may be suppuration or even extensive gangrene, but even with destructive lesions of the pulmonary valves there may be no suppurative infarcts in the lungs, as in a case of Dr. Church.[2] Or again, as in a case of Dr. Moxon's,[3] there may be with aortic valvulitis suppurative infarcts in the lungs, and simple ones in the other organs. The gastro-intestinal canal may present very remarkable changes, due to the presence of numerous infarctions, from the size of a pin's head to a split pea. They are slightly elevated, grayish-yellow in color, often surrounded by a zone of deep congestion or extravasation, and on section may show a suppurative centre. Micrococci are present as in other biliary abscesses, and in several instances I was able to find small embolic plugs in the arteries of the submucosa. The abscesses may discharge and leave a small ulcerated surface. In the stomach there may be similar minute infarcts, and occasionally larger ones. Carrington[4] has described a remarkable case in which there was a gastric ulcer, apparently due to embolic process, in a case of severe endocarditis; and Magill,[1] a case in which the stomach was intensely inflamed, the mucous membrane at the greater curvature being black, almost gangrenous. The liver may present minute abscesses, and in a number of cases in which there has been jaundice degeneration of the cells has been observed.[2] The serous surfaces are often inflamed, pleurisy and pericarditis being not uncommon complications. The pericardium is most frequently affected in rheumatic cases, in which endocarditis and pericarditis may occur simultaneously. Pleurisy is met with chiefly in connection with the traumatic and puerperal cases, and also with pneumonia, which, as I shall show, plays such an important part in the history of this form of endocarditis. The cerebral lesions are of the substance and of the membranes. Embolic softening, simple or suppurative, is extremely common, and in very many cases head symptoms supervene, and there is paralysis of one side or the other. There may be a single embolus, producing extensive suppuration or red softening, or there may be multiple infarcts in various regions.

The meningeal complications of endocarditis have not received much attention. Considering the frequency with which it has occurred in the Montreal cases, five instances out of twenty-three, I was quite prepared to find such a large number as twenty-five cases—*i. e.*, in somewhat over twelve per cent. In the majority of these cases it occurred in connection with pneumonia. It is almost always cortical, but may extend to the base and involve the nerves, leading in one case, which I saw with Dr. Ross at the Montreal Hospital, to strabismus, and also to ulceration of the cornea from involvement of the fifth nerve. In rare instances the spinal meninges are involved, and the clinical picture may be that of an acute cerebro-spinal meningitis.[3] Acute suppurative parotitis was noted in three cases.

[1] Charité Annalen, iii., Berlin.
[2] Path. Soc. Trans., vol. xxvi.
[3] Ibid., vol. xix.
[4] The Lancet, vol. i., 1884.

[1] Brit. Med. Journal, vol. ii., 1884.
[2] Schnitzler, Wiener Med. Presse, 1865.
[3] Hunolle, Bull. de Soc. d'Anatomie, 1874; and Heineman, Med. Record, New York, vol. ii., 1881.

ORIGINAL ARTICLES.

A YEAR'S WORK IN LAPAROTOMY.

By WILLIAM GOODELL, M.D.,
Professor of Gynecology in the University of Pennsylvania.

From the subjoined table it will be seen that I have had during the past year twenty-two ovariotomies, making a total of one hundred and thirty-two cases. Of the former, ten were performed in the Hospital of the University of Pennsylvania, with three deaths; seven at my private hospital, with one death; and five at the home of the patient, with one death.

In eleven both ovaries were removed. Seventeen had adhesions, which in seven were of the most formidable character, requiring many ligatures and very careful and prolonged dissection. There were also four women whose ages were respectively sixty, sixty-one, sixty-three, and sixty-four years; of these one died.

Total Number,	Name and Residence of Previous Medical Attendant.	Age,	Condition,	No. of Children,	Previous Tappings,	Place of Operation,	Date of Operation,	Adhesions,	Ovary Diseased,	Size and Nature of Tumor,	Length of Incision,	Drainage,	Result,	Remarks.
111	Dr. W. R. Cruice, Philadelphia.	37	S			Univers Hosp'l.	Jan. 31.	None.	L	4 lbs.	Long	None.	Recovery.	A solid fibroid tumor.
112	Dr. H. L. Orth, Harrisburg, Pa.	28	M	4		Home.	Feb. 2.	Parietal, pelvic, vesical.	L R	1 lb.	Short.	"	"	
113	Dr. J. Y. Dale, Lemont, Pa.	64	M	2	1	"	Feb. 4.	Parietal.	L R	40 lbs.	"	Tube.	"	Proliferous cyst of suspected malignancy.
114	Dr. W. Ellershaw, Philadelphia.	35	S			Univers. Hosp'l	Feb. 28.	Omental	L R	50 "	"	None.	"	
115	Dr. E. Martin, Philadelphia.	42	S		1	"	" "	None.	R L	15 "	"	"	"	
116	Dr. E. Martin, Philadelphia.	61	M	3	3	"	Mch. 18.	Parietal, omental, intestinal.	L	50 "	"	"	"	Many ligatures needed.
117	Dr. W. J. Humphreys, Cherryville, Pa.	21	S		2	"	April 6.	Parietal, omental.	L	45 "	"	"	"	Many ligatures needed.
118	Dr. M. B. Strickler, New Bloomfield, Pa.	40	M	7		"	April 12.	Omental.	R L	30 "	"	"	Death from peritonitis.	
119	Dr. L. D. Judd, Philadelphia.	37	S			Private Hosp'l.	May 10.	Intestinal, uterine, pelvic.	L R	2 "	"	"	Recovery.	One oviduct as large as a small sausage; sound ovary removed on account of uterine fibroids.
120	Dr. A. W. Barber, Philadelphia.	21	S			Univers. Hosp'l.	June 5.	Omental.	L R	40 "	"	"	"	
121	Dr. D. P. Miller, Huntingdon, Pa.	63	M	1	1	"	July 10.	Extensive parietal.	R	65 "	"	"	Death from uræmia.	Died suddenly from acute uræmia.
122	Dr. J. Stokes, Moorestown, N. J.	27	S			"	Sept. 8.	Universal.	R	1 lb.	"	"	Recovery.	Dermoid cyst containing hair and bone.
123	Dr. J. W. Wilson, Philadelphia.	30	M	2	1	"	Sept. 22.	"	R	50 lbs.	"	"	Death from shock.	Had septic fever and bedsores at time of operation.
124	Dr. D. Rose, Chester, Pa.	56	M	11	1	Private Hosp'l.	Oct. 19.	Omental.	R	40 "	"	"	Recovery.	
125	Dr. J. Roberts, Philadelphia.	51	M	8	2	"	" "	"	R L	30 "	"	"	"	
126	Dr. Meschter, Worcester, Pa.	47	S			Home.	Oct. 25.	None.	L R	15 "	"	"	"	
127	Dr. B. A. Vaughan, Columbus, Miss.	60	W	12		Private Hosp'l.	Nov. 9.	Parietal.	L	70 "	"	"	"	
128	Dr. N. Stokes, Moorestown, N. J.	44	M	10		"	" "	None.	L R	20 "	"	"	"	
129	Drs. Bemus, Jamestown, N. Y.	39	S		1	Home.	Dec. 6.	"	L R	35 "	"	"	"	
130	Dr. J. E. Bauman, Telford, Pa.	49	M	4		"	Dec. 15.	Parietal.	R	40 "	"	"	Death from anæmia.	Her second operation; malignant disease.
131	Dr. W. Goodell, Philadelphia.	28	M			Private Hosp'l.	Dec. 21.	Intestinal, uterine, broad ligament.	R	5 "	"	"	Recovery.	Very difficult operation needing enucleation.
132	Dr. J. B. H. Gittings, Philadelphia.	30	M	2	1	"	" "	" "	L	7 "	"	"	Death from septicæmia.	Dermoid cyst with universal adhesions.

In not a single instance did I refuse to operate, however low the patient. This statement will, I think, be borne out by the following brief history of the five fatal cases:

Case 118 was operated on in the Hospital of the University. Death ensued on the third day, from hospitalism, I believe, because the operation was not a difficult one and the adhesions were merely omental. There was considerable ascitic fluid and perhaps a drainage-tube should have been used.

Case 121 was that of a lady aged sixty-three, who had been worn down to a skeleton by a large tumor weighing about sixty-five pounds. She also had albumen in her urine, and was operated on in the Hospital of the University. There were very extensive and firm parietal and omental adhesions, which needed many ligatures. She did extremely well for sixty hours, when, without warning, she suddenly became comatose and died in five hours from acute uræmia. The autopsy revealed one kidney riddled with abscesses and the other affected with interstitial nephritis. The abdominal cavity was wholly free from inflammation.

Kidney disease is a frequent cause of death after ovariotomy. Yet I think that no ovariotomist would be justified in refusing an operation merely on that ground, unless the patient's condition were already a hopeless one from the renal lesions. But it is not always easy to determine whether the disease of the kidney is due to the pressure of the tumor or whether it exists independently. In suspected kidney trouble it would perhaps be safer to administer chloroform in the place of ether, which tends to arrest the action of these organs, and I greatly regret not having done so in this case.

Case 123, when first put in my hands was in an advanced stage of septicæmia, and I operated on her sheerly from a sense of duty, as her physician, Dr. J. W. Wilson, and the Resident Physicians of the Hospital of the University will, I am sure, attest. She gave birth to a child on July 24, and after her delivery a tumor was discovered by Dr. Wilson. It grew so rapidly, and the woman's health failed so much, that on August 22 he was obliged to tap, removing two and a half gallons of fluid. This operation, while relieving the woman from pressure symptoms, did not improve her health, which became worse and worse. On September 19th, she was carried to the Hospital of the University, never having left her bed from the day of her delivery. Her temperature was over 103°; her pulse never under 130. She had night-sweats, the glassy eyes of septicæmia, and two large bed-sores. She was also very pale and weak. On September 22d, with many misgivings that she would die on the table, and with every preparation made to avert such an end, I operated on her, being assisted by Drs. James F. Wilson, Joseph Stokes, and C. W. Richardson, and by my son. Several times during the operation she seemed to be dying, and hypodermic injections of ether, brandy, and the tincture of digitalis, were liberally used. The cyst weighed about fifty pounds, and was attached everywhere, to abdominal wall, intestines, and omentum. Its walls were rotten, and its contents gave off a sickening odor. Very little blood was lost, but the shock was too great, and she died fifteen minutes after being put to bed.

Case 130 was another forlorn hope. Five years previously, as Case 8 of my total series, this woman had been operated on by myself for a very large colloid cyst of the left ovary. A year ago her health began to fail coincidently with the appearance of another abdominal tumor. Early in December, when I first saw her, she was so thin, sallow, and reduced in strength, and the fluctuation was so obscure, that my diagnosis was colloid degeneration of the right ovary, probably malignant. On December 13th, I operated at the home of the patient, being aided by Drs. J. E. Bauman, of Telford; H. G. Groff and Vincent Z. Keeler, of Harleysville; Slifer, of North Wales; and by my son. On opening the abdomen, I found its cavity full of a thick jelly, which had escaped from the main cyst evidently some time before. The bowels, agglutinated together, were roughened with papillæ, and enveloped with this colloid material. In addition, the womb, broad ligaments, bladder, and the parietal peritoneum were studded with papillomatous masses. Even the pedicle, which was short, was so covered with papillomata that I had to scrape them off with my thumb-nail in order to find a place in which to lodge the ligature. I did not see her again, but Dr. Bauman informed me that the wound healed perfectly; no abnormal symptoms set in; yet she grew weaker and weaker, dying from sheer exhaustion on the sixteenth day after the operation.

This case is the only one in which I performed ovariotomy twice in the same patient. But I have at present under treatment a lady from whom, four years ago, I removed the left ovary for cystic degeneration, and in whom the right ovary is now rapidly enlarging. The liability of the remaining ovary to cystic disease, which in my cases amounts to a little over 1.5 per cent., strengthens me in the conviction that in women approaching the climacteric, both ovaries should, as a rule, with but few exceptions, be removed. Had this been done, my patient would not now be exposed to the risk of a second operation, and would have been saved grievous disappointment.

This case also makes my third one of colloid degeneration in which the sac had burst some time before the operation. In each the disease was evidently malignant. One survived the operation, and went home; but died a few weeks afterward with a reaccumulation of the colloid material in the peritoneal cavity, and a sprouting out of a crop of papillomata from the cicatrix in the abdominal wall. In the second one both ovaries were removed, and from great emaciation and weakness, the woman became plump and hearty. For two years she did extremely well. Then a tumor made its appearance in the left broad ligament. It gave much pain, caused obstinate costiveness, and rapidly exhausted her strength. I offered to make an exploratory incision to see what could be done, but she refused, and died not long afterward. The history of these cases goes to show that colloid cysts of the ovary are liable either to start with malignancy, or to

degenerate into malignancy, and should, therefore, always arouse suspicion.

Case 132, from the outset, held out but little prospect of success. Two months previously, the lady had been etherized by several physicians with a view to an operation; but, after a careful examination, it was not attempted. For diagnostic purposes, however, a hypodermic syringe was used to abstract a little of the fluid contents.

When I operated on her (December 21st), she had septic fever, with night-sweats, and her legs were greatly swollen. The tumor, not larger than a child's head, but bulging down into Douglas's pouch, proved to be a suppurating dermoid cyst of the left ovary. It was adherent at every point to the bowels, appendix vermiformis, broad ligament, pelvic fascia, and to the whole hind portion of the womb. In the stripping of the cyst off from the womb, the raw surface bled so freely that Paquelin's cautery had to be resorted to, and, in addition, some of the vessels were tied *en masse*, the needle penetrating uterine tissue. The pedicle was the left cornu of the womb, which was transfixed and tied. The patient did fairly well for a week, giving good promise of recovery; but on the eighth day she began to vomit green matter, and died in a few hours quite unexpectedly.

to occur in the abdominal cavity than within the sac, as in dermoid cysts.

A few words are needed about Case 126. She had a rheumatic heart and the goggle eyes of exophthalmic goitre. The operation was performed at the patient's home in the country on October 25th. On account of the cardiac disease ether was administered with great caution. The operation was an easy one; adhesions did not exist, and both ovaries were readily removed.

I did not see her again, but I learned by a letter from Drs. Meschter and Gerhard, her physicians, that she died on November 27th, thirty-three days after the operation, from inflammatory rheumatism and her cardiac affection. "She seemed to have perfectly recovered from the operation."

With regard to the causation of ovarian cysts, I feel more and more convinced that single life, sterility, or unfruitfulness, whether natural or enforced, has more to do with it than is generally supposed. Thus out of my 22 cases, there were 9 unmarried women and 1 widow. Of the married, there were 1 without a child, 1 with 1 child, and 3 with 2 children. These figures go to show that unless the cycle of reproduction is completed in woman she is plainly violating some great law of her being.

Number.	Name and Residence of Previous Medical Attendant.	Age.	Condition.	Number of Children.	Place of Operation.	Date of Operation.	Nature of Disease.	Result.	Remarks.
1	Dr. G. S. Hull, Chambersburg, Pa.	45	S		Private Hospital.	Jan. 29.	Multiple fibroids; hemorrhage.	Recovery.	Wholly cured.
2	Dr. E. Martin, Philadelphia.	35	S		Univers. Hospital.	April 6.	Multiple fibroids; hemorrhage.	Death from peritonitis.	
3	Dr. W. Goodell.	35	S		"	May 9.	Pernicious menstruation.	Recovery.	Cured.
4	Dr. W. Goodell.	38	W	1	"	May 22.	Dysmenorrhœa.	"	Cured.
5	Dr. S. Weir Mitchell, Philadelphia.	40	S		At Home.	May 24.	"	"	Cured.
6	Dr. F. W. Coover, Harrisburg.	34	M	4	Univers. Hospital.	July 1.	Menorrhagia.	Death from peritonitis.	
7	Dr. E. Martin, Philadelphia.	21	M	1	"	Sept. 17.	Ovaralgia.	Recovery.	Unimproved.
8	Dr. G. S. Hull, Chambersburg, Pa.	30	M	7	"	Sept. 30.	"	"	

In my experience, dermoid cysts are very liable to have firm and extensive attachments, which make their removal far from easy. They are also very vulnerable, taking on inflammation on the slightest provocation. I have had two cases of a small cyst in Douglas's pouch in which violent inflammation followed the use of the aspirator, putting my patient's life in jeopardy, but fortunately ending in obliteration of the sac. In the present case, suppuration was probably due to the use of the hypodermic syringe. Several cases of fatal inflammation have also been reported after an analogous use of the hypodermic syringe in ovarian cysts. But in such cases, owing to the escape of a thinner fluid from the tense cyst, the inflammation is more liable

Of other laparotomies, I had one successful hysterectomy and eight oöphorectomies with two deaths.

The hysterectomy was performed in the hospital of the University on May 22d, and I was aided by Drs. E. Martin and Barber and by my son. The woman was single and forty-seven years old. She had multiple fibroid tumors of the womb, causing menorrhagia and a constant pain which crippled her. The tumors had very firm parietal, intestinal, and omental adhesions, and the incision needed for their removal was a long one. The stalk formed by the cervix uteri was about four inches in diameter. It was brought outside of the wound and secured by two long pins together with Koeberlé's wire

clamp. The whole mass, drained of its blood, weighed thirteen and a half pounds. The recovery was prompt.

The oöphorectomies were performed for the following reasons: Three for multiple fibroid tumors of the wound; two for pernicious menstruation, which crippled the patients for three out of four weeks; two for ovaralgia, and one for ovarian dysmenorrhœa and threatened insanity. The two which died were cases of multiple fibroid tumors of the womb. The ovaries were greatly lengthened out from the growth of the tumors; they had very short and broad pedicles, and were very hard to get at, owing to adhesions contracted by the uterine tumor. Case 8 presents the anomaly of the extirpation of the ovaries for ovaralgia, resulting in a recovery, but not in a cure. My explanation is this, that while I believe the pain was ovarian, it had persisted in the ovarian nerves on account of the opium habit, which the patient had not given up. The left ovary, to which the pain was referred, was prolapsed and had also undergone cystic degeneration. The right ovary seemed healthy. In all the eight cases some evidence of disease, either of the ovaries or of the tubes, was invariably found.

Besides the above, I had a fatal case of exploratory incision. The woman was a great sufferer and much reduced. The tumors proved to be malignant and were not touched. Three days afterwards she died suddenly with symptoms of embolism.

DISINFECTANTS.

PRELIMINARY REPORTS OF THE COMMITTEE ON DISINFECTANTS OF THE AMERICAN PUBLIC HEALTH ASSOCIATION.

VI.

CARBOLIC ACID.

By CHARLES SMART, M.D.,
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Carbolic acid may be said to have been recognized as an antiseptic from the time of its discovery by Runge, in 1834, in the distillate from coal-tar. This is sufficiently attested by the analogies which led to the use of the name *coal-tar creasote* and the well-known preservative action of the product from wood. In Watt's *Chemical Dictionary* we are informed concerning the properties of carbolic acid, that "fish and leeches die when immersed in the aqueous solution and their bodies subsequently dry up on exposure to the air without putrefying." The deodorant action of the acid was recognized as due not to a destruction of the offensive products of putrefaction, as in the case of some chemicals, but to an influence on the process which gave rise to them. When this process was shown to be dependent on the development, growth, and multiplication of certain bacterial forms, a destruction of their germs, or at least an interference with the conditions congenial to their growth, was of necessity assumed. On this Professor Lister, in 1867, based the use of the acid in Antiseptic Surgery. The success attending his method of treatment spread the fame of carbolic acid; and its known and well-proved antiseptic properties led to its investiture with disinfectant properties which were by no means proved. It was used largely as a disinfectant in Europe, and for several years was held in a similar high repute in this country.

The first experiments to test its value failed to distinguish between the antiseptic and disinfectant properties. As late as 1870, Crace Calvert's experiments[1] had a reference only to the delay in the exhalation of putrefactive odors from organic substances. Albumen and flour-paste, which became offensive in five and seven days respectively, when exposed to the air, were preserved for eleven and twenty-five days when mixed with five per cent. of the acid. Even the experiments of Schroeter,[2] in 1878, seem mainly directed to define an antiseptic value. A liquid characterized only as teeming with bacteria, had its contained organisms rendered motionless and precipitated by the addition of 0.05 per cent. of the acid—a dilution of 1 : 2000. Raw flesh in a dilution of 1 : 10,000=0.01 per cent., began to putrefy at the end of six days; in 1 : 2000=0.05 per cent., the liquid, notwithstanding the presence of the flesh, remained clear and without odor for four weeks; in 1 : 1000=0.1 per cent., the preservation was prolonged for from six to eight weeks, while in 1 : 500=0.2 per cent., the liquid remained clear and free from all organisms for many months. Hence he considered that a solution containing 0.1 per cent. of the acid is one in which no low organisms can exist, and that a dilution of 0.01 per cent. will retard their development for some time.

The acid was recognized as being specially destructive to the moulds, a much smaller quantity sufficing to destroy them than was requisite to insure protection from the bacteria of putrefaction. Thus, Baxter[3] quotes Manassein as authority for the statement that one-sixteenth of one per cent. deprived the spores of penicillium of their germinating power; and Schroeter found that the vapor of the acid arrested the development of penicillium and mucor and destroyed their spores. One thorough fumigation of a mould-infected chamber acted so radically that for six weeks afterward no trace of the fungi was discovered.

It became evident, however, to the experimenters having this matter in view, that the acid might interfere with the development of the bacteria of putrefaction without destroying their power of multiplication when transferred to a more congenial environment. Hence, culture experiments were instituted on the bacteria that had been subjected to the influence of the acid. Moreover, it was recognized that experiments on the bacteria of putrefaction were by no means satisfactory as arguments on the vitality of the disease germs which were concerned in the process of disinfection. Hence were instituted experiments on certain infective matters.

Braidwood and Vacher investigated the action of

[1] Chemical News, London, 1870, Vol. xxiii., p. 281.
[2] Beitrage zur Biologie der Pflanzen, Breslau, 1878, 3 Heft. S. 30 et seq.
[3] Report of the Medical Officers of the Privy Council and Local Govt. Board, London, 1875, p. 216 et seq.

the acid on vaccine lymph in 1870, and verified their results in 1876.[1] On four children vaccinated with lymph containing 2.5 per cent. of acid, six vesicles were obtained at ten points of insertion. In these instances the lymph was removed from the arm, mixed in a watch-glass with the acid and applied at once. A second group of children, five in number, were vaccinated in a similar way; but the mixtures used had been preserved in Husband's capillary tubes for seventeen days, three weeks, four weeks, and six weeks respectively. These inoculations all failed and the children afterwards underwent successful normal vaccination. Similar results were obtained by trying the carbolated lymph on a heifer.

Meanwhile, Dougall, in 1873, operated on vaccine lymph, making use of subsequent vaccination as the test of the action of the carbolic acid on the virus. He exposed the lymph in a bell jar of one cubic foot capacity for thirty-six hours, and after mixing it with glycerine and water, sealed it up in capillary tubes until used for vaccination. The lymph thus treated produced satisfactory vesicles. Led by this result, he then treated fresh vaccine with one per cent. of pure carbolic acid and found its infective property undiminished. But about the same time Hoppe Seyler[2] determined that two per cent. of the acid destroyed the activity of vaccine virus; and two years later Baxter, in his careful work for the British health authorities, was also successful in destroying the virus, as proved by subsequent inoculation with the disinfected matter. He exposed dry vaccine to carbolic acid vapor in a bottle one-third filled with the acid and found that when the period of exposure was less than thirty minutes the infection was but slightly if at all impaired. When the exposure extended to thirty minutes, disinfection was effected in one specimen, while another produced two vesicles for three insertions. In two instances in which the exposure was prolonged for sixty minutes the virus proved inefficient when subsequently used. He also found that while the presence of one per cent. of carbolic acid in liquid vaccine exerted no influence on its activity, two per cent. destroyed its infective power with certainty.

Dougall, returning to this subject in 1879,[3] concluded from some of his experiments that if the vaccine were used immediately after its exposure to the carbolic acid, or if hermetically sealed in the meantime, the virus would fail, but that if exposed to the air after being carbolized it would recover its activity. Thus sixty parts of vaccine and forty of acid, when used immediately after mixture, gave no results, but when used after a free exposure to the air during fourteen days, it was found to have recovered its active properties. He therefore concluded that the infective particles of the lymph became covered with the coagulated albumen of the vaccine liquid, and that in vaccination the free acid coagulated the contents of the dermal capillaries and rendered absorption impossible. But these experiments of Dr. Dougall did not succeed in the hands of J. W. Miller, of Dundee.[1] He prepared four specimens, each containing two parts of carbolic acid and three of vaccine. The mixtures were exposed to the air for fourteen days before use; and in each of the four experiments the lymph was barren. Two experiments were made with vaccine which had been exposed to the air for fourteen days after its admixture with five per cent of the acid; in one of these the lymph was barren, in the other an imperfect vesicle was obtained. One experiment, however, appeared to verify Dr. Dougall's results; equal parts of vaccine and glycerine of carbolic acid, after exposure to the air during fourteen days, yielded a good vesicle. But Miller was inclined to view this result with suspicion, and attributed it to pure lymph rubbed off by inadvertence from some of the other points of insertion on the child's arm.

But other liquids containing germs or infective matter were used by the investigators. Rosenbach,[2] in 1873, injected dogs and rabbits with unhealthy pus, to which five per cent. of the acid had been added, the general tenor of his results showing that disinfection had been accomplished. Baxter, two years later, experimented with the virus derived from the peritoneal cavity of guinea-pigs that had succumbed to infective peritonitis. The length of time during which the virus was exposed to the action of the acid varied from thirty minutes to three hours, thorough admixture having been effected in the meantime. In one set of experiments, two per cent. and one per cent. of the acid destroyed the infection, as the animals inoculated with the mixture did not suffer. In a second series of experiments, one per cent. was efficient for protection, but with a virus containing only 0.5 per cent., the animal died in forty hours from acute cellulitis. In a third series, one per cent. was efficient, but death occurred with 0.5 per cent. in eighteen hours. In the fourth series, one per cent. proved again protective against the infective material. Similar inoculation experiments with the virus of glanders showed that two per cent. of carbolic acid destroyed its infection, while 0.5 per cent. failed to act as a disinfectant.

By culture-experiments, Sternberg, in 1883,[3] showed that the micrococcus of pus has its vitality destroyed so that it fails to develop when introduced into a sterilized bouillon after an admixture of two hours with 0.8 per cent. of the acid, while with 0.5 per cent. its subsequent cultivation was successful; and that the micrococcus of septicæmia is destroyed by 0.5, but not by 0.25 per cent. This defines the germicide limits of the acid in respect to these organisms. On the other hand, when carbolic acid was added to the sterilized culture-liquid, a much smaller percentage than was needful for a germicidal action sufficed to prevent the development of the micrococci of pus and of septicæmia when implanted for cultivation. Thus, 0.2 per cent. prevented the development of the organisms, while 0.1 per cent. failed to protect the culture-liquid from its attack. Similar results were obtained with the micrococcus

[1] British Med. Association. Scientific Reports, London, 1876.
[2] Arch. Gén., May, 1863, p. 633.
[3] British Med. Journ., 1879, vol. ii. p. 726.

[1] Med. Record, Sept. 1873, p. 427.
[2] Practitioner, Sept. 1884, p. 146.
[3] Amer. Journ. Med. Sciences, April, 1883.

of septicæmia. This defines the antiseptic limits of the acid in respect to these organisms.

Baxter was of opinion that the length of time during which the acid was permitted to act upon the infective material was of no importance, provided that thorough mixture was insured. This implies a belief in the instantaneous action of the acid on the active principle of the virus. Some experiments by Koch[1] in 1881, Salmon[2] in 1883, and Schell and Fischer[3] in 1884, indicate that time of exposure, as well as strength of solution, enters as an element into the question of disinfection. Thus the last-mentioned investigators, operating on fresh tubercular sputa, found that disinfection was accomplished by treatment with three, two, or even one per cent. of acid for twenty hours; but that five per cent. failed to disinfect when the period of digestion was limited to two hours. Post-mortem examinations discovered sound organs in the animals inoculated with the former mixtures, and tubercular disease in those of the specimens treated with the latter and stronger mixture. Salmon, operating on the micrococcus of fowl cholera, obtained the destruction of the virus by one per cent. of the acid, the test being inoculation. In some experiments in which the test was cultivation, one per cent. succeeded and 0.5 per cent. failed to destroy the power of germination when the digestion with the acid was continued for one and a half hours; but 0.5 per cent. was successful when the digestion was prolonged for twenty-four hours.

The bacilli and spores of anthrax have been subjected to a number of experiments, of which those of Davaine[4] are the earliest. The blood of an infected animal, diluted with one hundred parts of water, was used. This was found to be speedily fatal to guinea-pigs when injected under the skin, but its virulence was destroyed on treatment for an hour with one per cent. of carbolic acid. Koch found that the *spores* of anthrax had their vitality destroyed by immersion for twenty-four hours in a five per cent. aqueous solution of the acid. A two per cent. solution was not efficacious; but after five days' digestion in this solution the development of the spores was somewhat retarded. Further experiments showed entire failure of disinfection with a one and two per cent. solution; success after seven days with three per cent.; after three days with four per cent. and after two days with a five per cent. solution. Culture in gelatine was the test employed in these instances. On the other hand, the *bacilli* were destroyed by exposure of from two to twenty-five minutes in aqueous solutions containing from five to one per cent. of the acid, the test being culture in solidified blood-serum. The culture in gelatine of the anthrax *spores* was not prevented by their antecedent immersion for one hundred and ten days in oil containing five per cent. of the acid nor by seventy days in alcohol of the same carbolic strength. An oleaginous five per cent solution diminished the development of the *bacilli* in three or four days, and accomplished disinfection on the sixth day, as shown by the failure of subsequent efforts at cultivation. Even a one per cent. solution in oil destroyed their power of development on the sixth day, but it is to be observed that a similar result followed the use of pure olive oil. Arloing, Cornevin, and Thomas[1] found that the virulence of anthrax spores persisted after an immersion of forty-eight hours in alcohol containing two per cent. of the acid, while it was destroyed by the action of the same percentage in water. Blyth[2] also experimented with these spores. He showed the inefficiency of the carbolic acid powders—Calvert's, Jeyes's, and McDougall's. The spores invariably developed notwithstanding contact with the powder for twenty-four hours. A one per cent. carbolic solution had no effect on their development; five per cent. retarded their growth; twenty-five per cent. in alcohol rendered them incapable of germinating in broth.

While these investigators were testing the power of carbolic acid on certain disease-producing substances, many series of experiments were performed on the bacteria of putrefaction, with a view of determining the germicidal as well as the antiseptic powers of the acid on the organisms, the latter being expressed by the quantity of acid required to be added to a nutritive liquid in order to restrain their growth, and the former to prevent them from multiplying when subsequently transferred to a suitable culture-liquid.

Baxter's experiments showed that 0.5 and 0.1 per cent. were required for the germicidal action, the larger percentage being requisite when the liquid was albuminous. Hamlet[3] operating on Pasteur's liquid containing B. punctum, B. termo, and M. crepusculum, found a slight diminution in the number of moving bacteria after standing five days mixed with one per cent. of carbolic acid, while with five per cent. few of the bacteria showed signs of movement. Nevertheless, in this last experiment their vitality persisted, for when a little of the solution was transferred to a large quantity of Pasteur's liquid the whole was in two days teeming with bacteria. Notter's[4] results were to the effect that 3.3, 5, and 6 per cent. of carbolic acid did not destroy the movements of the bacteria in a putrid infusion of beef, even after the lapse of seven days. Jalan de la Croix[5] found that when two drops of a liquid teeming with bacteria are added to a sterilized meat-juice, the acid must be present in the proportion 1 : 669 to prevent development; but to produce a germicidal effect in this weak bacterial liquid, acid in the proportion 1 : 22 had to be added. The bacteria in broken-down meat infusion were killed by immersion for twenty-four hours in a solution of 1 : 22, although not in 1 : 42; but to prevent the development of germs when this liquid was introduced into a sterilized infusion it was necessary to give them a preparatory soaking for twenty-four hours in an acid of the strength 1 : 2.66, for a solution of 1 : 4 did not deprive them of their

[1] Mitt. a. d. Kais. Gesundheitsamte, 1881, vol. i.
[2] Report Dept. Agriculture, U. S., 1883.
[3] Mitt. a d. Kais. Gesundheitsamte, 1883, vol. ii.
[4] Comptes Rendus, Oct. 13, 1873.

[1] Comptes Rendus Soc. de Biolog. Septiéme serie, t. iv.
[2] Med. Times and Gazette, Oct. 11, 1884, p. 498.
[3] Jour. Chem. Soc., London, 1881, xxxix. p. 326.
[4] Dublin Journ. Med. Sciences, 1879, Vol. 68, p. 196.
[5] Arch. für Experimental Pathologie, Leipzig, 1881, p. 175 et seq.

fecundity. To prevent the decomposition of boiled meat-juice by germs falling into it from the air 1 : 402 was required; but for an unboiled infusion 1 : 502 sufficed; and to prevent the development of the germs in the former when transferred to a sterilized liquid, 1 : 22 was required, while those in the latter were not deprived of their germinating power by 1 : 10. Vallin[1] justly remarks of De la Croix's experiments, that they must be accepted with some reserve, since it is contrary to the general experience that a boiled liquid should require more of an antiseptic to preserve it than one which had not been boiled. Sternberg found that 0.2 per cent. was antiseptic in view of B. termo, but one per cent. was required for action as a germicide. He further found that the bacteria in broken-down beef-tea retained their vitality after an exposure of two hours to a four per cent. solution.

Turning from these experiments in which the carbolic acid was used in the form of liquid to those in which its vapor was employed, we find the following, in addition to those already mentioned in connection with antiseptics, the destruction of moulds, and of the vaccine efficiency.

Perrin and Marty[2] failed to prevent the decomposition of barley-water, milk, blood, urine, etc., by the atomization of a five per cent. carbolic liquid. Schotte and Gärtner[3] volatilized carbolic acid by heat in a closed chamber in which were exposed to the action of the vapor liquids containing bacteria and woollen cloths that had been dipped in these liquids, determining at the close of the exposure whether the fecundity of the bacteria had survived by transferring them to a sterilized culture liquid. For efficient disinfection rapid evolution of the carbolic vapors was required. The bacteria in the exposed liquids were destroyed by the diffusion of 7.5 grammes of carbolic acid per cubic metre, but those in the impregnated cloths required a stronger diffusion, 12.5 grammes, when the fabrics were damp, and 15 grammes when they were dry.

From a survey of these experiments on carbolic acid performed since the introduction of methods of precision in testing germicidal or disinfectant properties the value of the acid in these respects may be determined.

One per cent. in an aqueous solution has destroyed with certainty the virulence of septic and purulent matters, of the tubercle bacillus, and of the micrococci of fowl cholera; some of the organisms related to putrefaction have also been destroyed by solutions of this strength. But to produce these results in some instances the contact with the disinfectant had to be continued for many hours. Two per cent. of the acid in an aqueous solution was required to destroy the infection of vaccine and glanders; but some of the experiments on the former seem to indicate that no destruction of the virus was effected, but merely a suspension of its powers, which were recovered on the dissipation of the acid by subsequent prolonged exposure to the air. The spores of anthrax did not lose their ability to germinate unless treated with a five per cent. solution for twenty-four hours or with a weaker solution for a longer time. Lastly, as showing how little reliance can be placed on carbolic acid as a disinfectant except in special instances, as in those above mentioned, where its effects have been determined, the organisms in broken-down beef-tea were not deprived of their reproductive powers by treatment with four per cent. acid, Sternberg, nor with six per cent., Notter, nor with ten per cent., De la Croix; the last observer indeed asserts that about thirty per cent. (1 : 2.66) was needful to effect this object.

The large percentage of the acid required for disinfectant or germicidal action when applied directly in the liquid form, prepares us for its failure when used in the form of vapor. Douglas and Baxter, from the results of their experiments on vaccine, concluded that aërial disinfection by carbolic acid vapor was practically impossible. The atomizer, however, offered better facilities for the diffusion of the vapor, and Strott[1] in 1876, and Wernich[2] in 1883, recommended the use of the spray as protective against albuminoid contagious principles. But the experiments of Perrin and Marty and of Schotte and Gärtner demonstrated its inutility as against bacterial life.

The valuable antiseptic properties of the acid do not come within the scope of this article, although they have been in a measure indicated incidentally.

[1] Traité des Disinfectants et de la Désinfection, Paris, 1882, p. 163.

[2] Bulletin de la Soc. de Chir., 1879, t. v. p. 153.

[3] Deutscher Verein für Oeffentliche Gesundhpflege, 1880, t. xii. p. 337 et seq.

NOTE ON THE TREATMENT OF ONYCHIA.

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PRACTICE in the out-patient departments of two hospitals has brought to my notice a number of cases of this stubborn disorder, and has led to my adopting a method of treatment which is so satisfactory that I think it worth while to call attention to it. It is not new in principle, but I think the details of it are not to be certainly gathered from the suggestions which are to be found in some of the works on surgery.

The plan I refer to consists in washing the usually stinking finger or toe-end with a weak solution of permanganate of potassium, trimming the nail back to where it is attached to the matrix, dusting on a *fine powder* of iodoform, and covering the whole in with turns of a narrow strip (not more than quarter of an inch wide) of adhesive plaster. The plaster I prefer is the rubber adhesive plaster, which fits better, because it is softer than ordinary adhesive plaster, and is much easier to apply, because it requires neither heat nor moisture to fix it.

By this means, I have succeeded, so far in every instance, in getting rid of the pain, which is often excruciating; of the odor, which is almost intolerable; of the evidences of high inflammation, which are always present; and in securing a speedy re-

[1] Ventilation und Disinfection der Wohnsäume, Holtzminder, 1876, p. 19.

[2] Real-Encyclopädie der Gesammte, Heilkunde, 1883, B. 15, S. 170 et seq.

covery of what by other methods has proved an exceedingly intractable disorder.

The secret of success, I believe, lies in attention to the details of this method. The finger or toe-end must be thoroughly cleansed with the permanganate solution; the nail must be gently, but thoroughly, trimmed back till all of it that is dead is removed; the iodoform must be *finely powdered*; the adhesive strip must be smoothly applied, and in such a way as to cover the whole of the end of the finger or toe.

This latter step is accomplished by taking the thin strip of plaster, and applying it first on the proximal side of the nearest interphalangeal joint, *obliquely to the long axis of the finger or toe*, and carrying it up toward the end and round until it begins to return; by continuing these turns, the strip, with a little guidance, will gradually make first a latticed covering, and then cover up the interstices of this lattice, so as to make a complete cap. If necessary, a few strips may be applied directly over the end of the finger or toe, so as to fill up any gaps which would require too much plaster to be covered-in in the, so to speak, natural way.

Such a dressing should be removed as soon as the pain or the stinking is renewed. But usually it will give immediate and entire relief from both; in which case, I think, it is advisable to remove it at any rate in two or three days to see how the part is getting along. The second dressing, of the same kind, will often be applied to a healthy granulating surface, and form a dry, clean scab, under which the member will heal up perfectly.

I have experimented in cases which were doing well under this treatment, and have found that the adhesive plaster part of it is indispensable. As soon as it was left off the cases did badly.

Toes, I have found, are harder to cure than fingers, for obvious reasons. But in the case of both fingers and toes, I have seen children cease their complaints, resume their plays, begin to get good sleep at night, and recover the appearances of health which pain had robbed them of.

Finally, I would say that I think it important in these cases to see that the patient's bowels are once well cleared out, and then kept in good order, and to give a ferruginous tonic.

This may seem an insignificant kind of surgery, but it is not insignificant to the little sufferers, nor to their parents, nor, my observation would lead me to believe, to the medical men under whose care the patients come.

A CASE OF DOUBLE NARCOTIC ADDICTION—OPIUM AND ALCOHOL. IMBECILITY. RECOVERY.

By J. B. MATTISON, M.D.,
of Brooklyn, N. Y.

Through the courtesy of Drs. T. Gaillard Thomas, of New York, and Wm. Bayard, of St. John, N. B., there came under the writer's care, last year, a case of combined opium and alcohol taking, presenting a history and result of such importance as to render its recital probably one of interest.

Mrs ——, of Canada, æt. 34, in the summer of 1881 passed through her second accouchement during the eighth month of gestation. Her recovery was tedious, involving four or five months, during which she had much discomfort from alvine torpor, and also underwent an operation for the relief of fistula in ano. The latter was attended by severe pain, to relieve which her medical advisers gave morphia, hypodermically, and supplying her with a syringe, instructed her and the attendant in its use. This was in July, and the initial dose of the morphia was an eighth of a grain, repeated three or more times daily when the pain was severe.

She made a fair recovery from this illness, except that the power of the lower limbs was largely lost, due, it was thought, to the morphia—which she had steadily taken—and a lack of active exercise.

She had now become a confirmed habitué, and during the next two years used her opiate in increasing quantity and frequency, often repeating it every three or four hours.

During the autumn of 1883 she came under the care of a medical gentleman who was called to relieve her of severe abdominal pain and nervous derangement. Prior to this time no attempt had been made to abandon the morphia. Her new professional adviser, appreciating her situation, strongly urged an effort in that direction, but without success. Her condition had steadily grown worse, aggravated as it was by an immoderate use of brandy, of which she took at times from twelve to sixteen ounces daily.

From October, 1883, her mental and physical decline was marked, the most prominent symptoms being anorexia, insomnia, nausea, incessant thirst, subsultus, loss of memory, delirium, hallucinations, and partial imbecility. Her physician now insisted on stopping her stimulants, and succeeded with the brandy, while the morphia, which had been increased to several grains—three to five per diem—was reduced to one or two injections daily.

Despite this treatment her mental and physical status steadily deteriorated until she became completely imbecilic, and in this condition, on December 21, 1883, she came under the writer's care. So weak was she prior to leaving home, that some of her friends deemed it hazardous to make the effort—fearing she would not survive the journey—but, under the watchful care of Dr. Bayard, it was safely effected. Her physical debility on arriving was so great that she was carried from her carriage. Mentally she was a wreck. Delusions were prominent and hallucinations of sight, sound, and touch almost constant, that of touch being especially marked; patient fancying bugs and reptiles crawling over her. Her expression was idiotic; she was utterly unable to converse intelligibly, and her voice in speaking speedily sank to a whisper and was lost. In fact, such mental ravages from opium we never met.

Physically she was partially prostrated, pulse frequent and feeble, marked anorexia, furred tongue and alvine torpor: in fine, all the symptoms before noted, except delirium and subsultus. During her coming, in order to maintain strength, she had taken milk-punch freely, and was given one or two half

grain injections of morphia daily. Such was her status on arrival.

There was no history of hereditary insanity. The case seemed clearly one of profoundly, pernicious results from her double addiction, aggravated by a laudable effort to remove the cause. This being our belief, the prognosis was favorable, an opinion endorsed by Dr. John C. Shaw, Superintendent of the Kings County Insane Asylum, who was called in consultation, and verified by the result, as the further record of the case will show.

As a prelude to active treatment, the patient was given a mild mercurial, which acted well. No alcohol was allowed from the outset, and at the end of a week the morphia, which previously had been given in small doses by mouth at bed-time, was quite abandoned, and reliance placed on large doses of Indian hemp to secure sleep. As tonics, she was given daily seances of electricity, with syr. hypophos. iron, strychnine, and quinine, in two drachm doses, ter die, and full feeding.

The good effect of this regime soon declared itself, for in less than a fortnight signs of improvement presented. The earliest of these were mental. The delusions lessened and hallucinations departed, the last to leave being those of touch, which persisted for some time after the patient was able to realize that they were only the vagaries of her disordered brain. With this amendment came a better brain status in other ways. The imbecile look gave place to one of increasing intelligence, the power to converse rapidly returned, and within six weeks all traces of mental aberration had vanished. Meantime her physical condition gradually improved, though not so speedily as the mental. The appetite was slow in returning, but her muscular strength, especially in the lower limbs, the loss of which for two and a half years had prevented exercise, increased steadily, so that at the end of eight weeks she was able to take walks, drives, go shopping, attend church, etc., in fact, more out-of-door exercise than she had enjoyed for years. Her improvement in every way was notable, and persisted with little interruption until March 4, nearly eleven weeks from the date of her coming, when she left our care. Tidings, direct and indirect, received of late report her doing well.

This case presents several points worthy of detail. In our judgment, the course of the medical gentleman in supplying this patient with a hypodermic syringe and solution of morphia, with instructions for self-taking, unless absolutely unavoidable, was—to put it mildly—exceedingly indiscreet. Such action and advice are almost *certain* to end in addiction. The effect, even under professional attention, is too often disastrous, and the chance of escaping when left to caprice of the patient is small indeed. We believe that patients should *never* be allowed to give themselves injections, if at all possible to avoid.

When her initial illness ended, this patient was an opium habitué. A much more limited time than that will often suffice. We have repeatedly known as many weeks to beget addiction.

This case adds another to the instances in which addiction to one narcotic tends to excess in another. While these are infrequent as compared with those in which one is used, they are sometimes quite notable. We recall that of a Canadian gentleman who some time ago consulted us, who had taken for several years 10 to 20 grs. of morphia, subcutaneously 60 to 90 grs. of chloral, and 1 to 2 pints of whiskey daily. Physical examination disclosed organic heart lesion, and care of this case was declined. As a rule, the ruinous results exceed those of a single addiction, while the prospect of permanent cure is always less hopeful. In our patient the pernicious effect on the brain was notable, more so than we have ever observed. While deviations from normal cerebral action are sometimes observed in cases of confirmed opium-taking, it is rare that they are so pronounced as in this instance. Doubtless they were aggravated by the alcohol, yet morphia was the main factor. And it is of interest to note that the attempt at renouncing the narcotics intensified the mental disorder. Obersteiner (*Brain*, Oct. 1882), demurring to Levinstein's statement that the psychical disturbances caused by morphia cease within a few hours, affirms that "mental diseases arising in the course of morphinism are of the most intractable kind when once fully developed. Not only do they not disappear on depriving the patient of morphia, but they then usually get worse." This case tends to prove the latter part of his statement. As one medical gentleman informed us, "the condition in which you saw her was the result of the addictions aggravated by the attempt to quit them." But the mental disorder was not of the "most intractable kind," for improvement was prompt and progressive, much more so than anticipated, as it was thought several months rather than weeks would be needed to repair the damaged brain.

Regarding alienation caused by opium, Obersteiner thinks it frequent, asserting that "a man who consumes large quantities of morphia during a number of years will display many nervous symptoms, and that the continued intoxication attacks the psychical much more constantly than the somatic life." He further states: "The degree of mental aberration arising from protracted use of the drug is very variable. There may indeed be individuals who retain their power of mind in spite of it, but the number is much greater of those who betray a marked alteration of their intellectual and moral life, and in not a few cases finally the point of distinct aberrations is reached. This usually consists of a depressed state with suicidal tendencies, occasionally with violent excitement and hallucinations;" and he sums up his views with the statement that "in most cases the protracted use of morphia in large doses is followed by psychical alterations of a lasting nature which may amount to decided insanity."

With these opinions we are not in full accord. Our experience has been much more favorable. We have observed many cases of opium addiction, among those who had taken morphia in large amount for several years, yet the number with marked mental derangement has been small. Depression has been common, so, too, irritability of temper, but we recall only one instance in which suicidal or homicidal tendency existed, and but a single case that we deemed "decided insanity." Far oftener,

physical symptoms presented. In some form these have been almost constant, so that on this score also, our observation has been at variance with Obersteiner.

Regarding treatment, one point deserves special mention—that is, the effect of Indian hemp in large doses. In this instance it quite maintained the power ascribed to it by Moreau of removing hallucinations. Again and again—often by the patient—was this noted. Its hypnotic action also was very satisfactory. As a soporific in ex-opium habitués, Cannabis Indica is of great value. They may be peculiarly susceptible to its good effect, but certain it is we know of nothing equalling it, and employ it almost exclusively. For details regarding its use, vide *Canada Medical Record*, Jan. 1885.

Finally, the history of this case is of value as warranting hope of entire recovery under conditions that seemingly offer little promise of success.

HOSPITAL NOTES.

MEMORIAL HOSPITAL, ORANGE, N. J.

Service of Dr. William Pierson.

HERNIOTOMY PERFORMED UPON A PATIENT HAVING FACIAL ERYSIPELAS; RECOVERY.

(Reported by James Y. Simpson, M.D., House Surgeon.)

Mary C., æt. 28, servant. The day before her admission, which was the 12th of December, the patient noticed a tumor in her right groin, which gave her much pain. The pain continued during the night, and was accompanied by vomiting. It was impossible to ascertain whether the vomiting was stercoraceous or not. No intestinal evacuation occurred after the appearance of the tumor, and a large enema failed to produce one. On admission, the patient was found to have a tumor in the right groin, which was dull, elastic, painful, and as large as an egg. On the face was a well-marked erysipelatous inflammation, confined chiefly to the left side and sufficiently intense almost to close the eyes; this, the woman said, had appeared three days previously. The patient was placed upon the table, and reduction of the hernia attempted under an anæsthetic. This, however, proved unsuccessful, and, after due consultation of the surgeons, it was decided that, in view of the pain and vomiting, the intestine was strangulated, and inasmuch as taxis had failed, the only resort was herniotomy—this operation offering a much better chance than delay, in spite of the facial erysipelas. After shaving the part and washing it with a solution of mercuric chloride, the usual incision was made, and the tissues divided upon a director until the sac was reached.

Digital exploration then showed that the hernia was femoral, the band of constriction being internal and anterior to this ring. The constricting band was easily divided and the intestine returned without opening the sac. The edges of the wound were brought together with a continuous catgut suture, and the wound dressed with carbolized gauze, absorbent cotton, oakum, and a spica bandage. The operation was performed by Dr. William Pierson, assisted by the surgical staff. A solution of bisulphite of soda was applied to the erysipelas. During the night the patient vomited a few times, and had a temperature of 103½° the next morning. Her pain was slight and easily controlled by sulphate of morphia administered hypodermatically.

The following day her temperature was 102¾°, and she complained of "uneasiness" across the abdomen. The erysipelatous condition of the face was more marked, one or two blebs appearing on the ear. On the next morning, her temperature was 100°, and the "uneasiness" of the bowels continuing, an enema was given and followed by relief.

From this time on her temperature remained normal, and the erysipelas was so near well on the seventh day after her admission that no further treatment was necessary. On the tenth day after the operation, the original dressing was removed from the wound and union found to be complete, with the exception of its lower extremity, which was discharging a small amount of pus. After a few days, the patient was able to return home, having entirely recovered from the operation and the erysipelas. This result is noticeable, as antiseptic precautions alone were employed to obtain it.

MEDICAL PROGRESS.

Impacted Caseous Glands in the Trachea causing Sudden Death.—At a recent meeting of the London Pathological Society, Dr. Percy Kidd showed this specimen, taken from the body of a boy aged 7. He was noticed to have a croupy cough, and somewhat stridulous breathing during life. No physical examination had been made. One night, after running about in the daytime, and having complained of no urgent symptom, he suddenly awoke, screaming, coughing, and struggling for breath. He died in about ten minutes. At the autopsy the mediastinal glands were all enlarged and caseous; the enlargement was most marked on those glands lying in front of the trachea; the lower end of the trachea was blocked up by an oval, partially softened caseous gland, which had been extruded through an ulcerated opening in the anterior wall of the trachea, just above the orifice of the left bronchus. The perforation led into an encapsulated space in front of the trachea, which contained caseous débris and traces of gland tissue. The heap contained a few miliary tubercles in their upper lobes, but were otherwise healthy. The heart was firmly contracted and practically empty, and was quite healthy. All the other viscera were healthy. It was remarkable that although the child evidently died of asphyxia there was no distention of the right side of the heart found after death.

Dr. Goodhart had seen a very similar case; an ulcer had formed in the left bronchus through which some softening caseous gland had been squeezed, and plugging the bronchus had caused sudden death. In another case he had reason to suspect this condition, but there was no *post-mortem* examination.—*Med. Times*, Feb. 21, 1885.

Pulsatile Angioma.—M. Laedrich, in the *Archives de Med. et Pharm. Militaires*, summarizes the treatment of pulsatile angioma by electricity as follows:

1. It must be certain that the point of the needle is in direct contact with the blood to be coagulated. A Pravaz needle is useful for this purpose.

2. The positive pole must be in relation with the tumor.

3. The negative pole is advantageously placed at a distance from the tumor—*e. g.*, in the palm of the hand.

4. Moderate currents only should be employed in the vicinity of nervous centres.

5. The Gaiffe pile is a satisfactory instrument for the operation.

Abdominal Section.—At a recent meeting of the Midland Medical Society, Mr. Lawson Tait read a paper entitled "General Summary of Conclusions from 1000 Cases of Abdominal Section." Mr. Tait first considered the question of anæsthetics, and stated that he preferred a mixture of two parts of ether and one part of chloroform given in a Clover's apparatus; this mixture he found did not cause bronchitis, and did not diminish the excretion of urine, and was less often followed by vomiting than any other anæsthetic he had used. He defined the term "abdominal section" as an operation in which the peritoneum was involved. Mr. Tait also presented an analysis of his cases, in all of which the peritoneum had been involved. The general death-rate was 9.3 per cent. Mr. Tait gave as the explanation of the much lower death-rate of his later operations the following reasons: 1st. Greater experience; 2d. The complete discontinuance of the clamp in ovariotomy and of the ligature in hysterectomy; 3d. Also the earlier stages of the disease at which operation is now done. Mr. Tait laid great stress upon the last factor in influencing the mortality after operations.—*Lancet*, February 21, 1885.

Diagnosis of Renal Disease.—The advance that has been made in the diagnosis of renal diseases was well exemplified in a case brought before the students, at the Western Infirmary, by Professor George Buchanan. The patient was a woman, the chief feature of whose ailment was the presence of a large quantity of pus in the urine. The interesting point about the case was that, previously to adopting operative measures, steps had been taken to demonstrate satisfactorily that the right kidney was the seat of mischief, and that the other one was sound. This was accompished by the use of a recently invented German instrument, by the introduction of which into the bladder, the urine from each kidney is collected separately, and the seat of suppuration determined. The correctness of this diagnosis was verified by the subsequent nephrotomy, performed by Professor Buchanan.—*British Med. Journal*, Feb. 28, 1885.

The Treatment of Lupus.—Dr. Walter G. Smith, after an exhaustive discussion upon lupus and its treatment, concludes that the treatment by linear scarification, introduced by Squire, and that of the curette, or sharp spoon, proposed by Volkmann, and which is best followed by immediate cauterization of the raw surface, are the two methods most worthy of trial. He summarizes the individual features of the two methods as follows:

Erasion, or scraping—

1. Differentiates sound from diseased tissue, for healthy skin will not give way to the spoon.

2. It is rapid of execution.

3. It is, as a rule, not followed by much after-pain.

4. The scraped surface heals wonderfully quickly.

5. It leaves a level and tolerably sightly cicatrix.

Scarification—

1. Is applicable to some situations, and, in some cases, where erasion is unsuitable or inadvisable.

2. It is less painful, and, to some persons, a less repellant operation.

3. There is a minimal loss of substance.

4. It is especially adapted for diffuse non-ulcerating infiltrations.

5. The scar left is scarcely distinguishable from the healthy skin, and it is said not to be liable to cheloid growths, which sometimes develop upon the scars left by scraping operations.

Hence, in lupus of the face, where æsthetic considerations have especial force, linear scarification deserves a full trial in the promise it affords of effecting the desired object with the least amount of consequent deformity.—*Dublin Journal of Medical Science*, February, 1885.

Alleged Dangers in the Use of Corrosive Sublimate as an Antiseptic Agent.—Dr. Fraenkel, of Hamburg, draws attention (Virch. *Arch.*, 99, ii.) to an almost unsuspected danger arising from the too free use of corrosive sublimate as an antiseptic agent. His remarks are in the first place based upon a case recorded by Stadfelt, of death with dysenteric symptoms following upon intrauterine injection of a solution of sublimate (1 to 1500) after adherent placenta, and are supported by the results of post-mortem examinations of surgical cases in which this solution was employed. In all these cases (fourteen in number) severe ulcerative lesions were found in the large intestine, but Dr. Fraenkel admits that in only two of these could the lesion be said to have caused the death of the patient. The appearances presented by the diseased bowel resembled those of acute dysentery—viz., more or less extensive areas of necrosis of the mucous membrane, with intense surrounding inflammation. He combats the notion that the intestinal lesions depended on septicæmia, mainly on the ground that in no case were any other of the lesions characteristic of septicæmia or pyæmia present, nor did the cases run the clinical course of blood-poisoning. Although the paramount value of corrosive sublimate as an antiseptic must be admitted, its employment is nevertheless not free from risk. Its immoderate use as an external application is liable to excite the diphtheritic-like inflammation of the large and sometimes of the small intestine, which is recognized clinically by tenesmus, colic, and bloody stools. But so far the renal changes supposed to be characteristic of sublimate poisoning have not been observed in surgical practice. The intestinal affection is most liable to occur in individuals whose nutrition is defective, or who are very fat, especially those with fatty hearts; and particularly if the sublimate has been in contact with large exposed and absorbing surfaces, as the peritoneum or uterus; therefore care should be taken to use only the weakest solutions consistent with their antiseptic property, and especially not to use them too frequently as intrauterine injections.—*Lancet*, February 28, 1885.

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SATURDAY, MARCH 21, 1885.

INTERMEDIATE HOSPITALS FOR THE TREATMENT OF INSANITY.

In the issue of *The American Journal of the Medical Sciences* for January, 1885, there is an important paper by Dr. Van Bibber of Baltimore, on "Intermediate Hospitals for the Treatment of the Insane," which formulates certain conceptions that have been fermenting in the minds of alienists and neurologists for several years past. There has been developing a conviction that our existing asylums for the insane, in their therapeutical management, do not represent those advances in our knowledge which have demonstrated the dependence of psychical derangements on changes in the organic substratum of the mind. That these institutions, in their organization and management, are adequate for that conception of insanity which regards it as a merely psychical derangement, may be admitted ; but if the modern belief that it is a malady caused by alterations in the physical basis of the mental functions be true, then the present merely moral and hygienic methods do not suffice. The accumulating evidence of physical changes underlying psychical derangements, renders necessary a new departure in the therapeutical management of insanity.

For the most part, our asylums are mere boarding-houses for people with disordered intellects, and the superintendent performs the functions of a boarding-house keeper. With the best intentions towards the scientific side of asylum management, the superintendent cannot escape the necessities of his position as the mere keeper of a lodging-house. The study of the structural changes in the brain in his fatal cases, must yield to the demands of his living inmates for a supply of potatoes and cabbages. Although at the outset of his career as an alienist, he may have been zealous to achieve accuracy in his diagnosis and an enlightened skill in his therapy, circumstances at last compel him to regard these as quite secondary to confinement under hygenic conditions. Instead of contributions to knowledge based on the observations and experiences of the asylum practice, he contents himself with an annual report in which the kitchen garden, the games indulged in by the patients, the contributions of flowers and pamphlets by benevolent ladies, and columns of ingenious statistics, figure as the ultimate expression of alienistic wisdom.

The present system, is, obviously, unequal to the demands of modern science. How shall it be modified to render the therapeutics of insanity conformable to that conception which regards it as a symptom of a change in the physical basis of the mind ? Dr. Van Bibber proposes the organization of intermediate hospitals, where the insane yet capable of benefit from remedial agencies can be subjected to treatment by a suitable staff.

Considered from the merely therapeutical point of view, the insane may be divided into two great classes : the acute cases, and those affected with forms of mental derangement, for which a reasonable expectation of benefit from appropriate treatment may be entertained ; the incurable of every kind.

As respects the latter—unfortunately a large group—the present boarding-house system is probably well devised to give them the maximum comfort consistent with security. Requiring no immediate medical supervision, the superintendent of the asylum containing them may devote himself to the cares of the farm and the kitchen, and to the compilation of those entertaining statistics which illustrate, at the same time, the skill of the doctor and the wisdom of the Board of Trustees or Managers.

Far different organization and methods are demanded for those asylums which receive the acute cases and those requiring treatment. These should be true hospitals, officered and managed as such institutions should be. We have here to encounter the burning question of superintendents with the manifold executive powers now possessed by that official in the existing insane asylums. It requires but little acquaintance with the needs of hospital administration to see how anomalous the position of superintendent is, if an asylum is to be a real hospital, devoted to the medical care and cure of insane patients. For the business and merely executive management of an hospital for the insane, a lay administrator, acquainted with the special functions of such a place, entirely suffices. Such an administrator properly enough, and doubtless, preferably, may be a medical man ; but the performance of such duties are manifestly incompatible with the actual charge of

the insane patients. It is quite possible to combine the duties of a medical superintendent with those of a house physician, acting in individual cases under the prescribed direction of an attending staff.

To a properly organized attending staff of neurologists and alienists, should be committed the remedial management of the inmates of such an hospital for the insane. In other words, the arrangements for the treatment of insane patients should be approximated to those that now obtain in the general and special hospitals of the present day. The attending staff should be organized from amongst those members of the profession who have given most attention to disorders of the nervous system. Insanity can no longer be relegated to the merely psychic realm, and hence the treatment of those mental affections dependent on physical alterations should properly be entrusted to those who have made themselves familiar with the diseases of the brain and nervous system.

Furthermore, as cerebral affections may manifest themselves in, or spring from, diseases of the organs of special sense, a properly organized staff for such an hospital should include the specialists devoted to such maladies. A scheme of this nature given its fullest development, may be so enlarged as to include the employment of other specialists for the treatment of accidental and intercurrent affections. The staff might thus be constituted of attending and consulting members—the latter to be called on in cases of difficulty, or of an extraordinary character.

It is greatly to be desired that the plan outlined by Dr. Van Bibber, in his timely paper, be submitted to the test of experience. Surely, the progress of our knowledge in brain diseases should have adequate expression in the remedial management of the insane cases in our asylums. Are we still to wear the bonds of an immovable conservatism, and continue worn-out expedients no longer adapted to the enlarging needs of modern society? If change is not necessarily progress, we are surely in a position where radical changes are indispensable to enlightened progress in the treatment and cure of insanity.

THE TREATMENT OF DIPHTHERIA.

Judging from a recent discussion at the Berlin Medical Society, succeeding the reading of Henoch's paper on diphtheria, we are forced to conclude that the therapeutics of this disease is not more definitely fixed in the minds of German physicians than in our own. At the same time, the discussion evolved some important practical points which should interest our readers.

While Fränkel was satisfied that it is quite possible to dissolve off diphtheritic membrane from the fauces by the use of acid solutions of pepsin, he did not believe anything was gained by so doing, since, in the first place, it is the false membrane in the bronchi, which cannot be reached by the pepsin solutions, which tends to produce stenosis and suffocation. That the vegetable organisms which are found associated with diphtheritic membrane, and which are always superficial in this situation, have anything to do with its causation or virulence is by no means proven. Fränkel compared diphtheria with erysipelas in its mode of extension and in our inability by any local measures to prevent its spread, unless it be by the saturation of the parts with corrosive sublimate solution, which, in the case of the pharynx, it would be impossible to do. He, therefore, limits the treatment of the disease to combating the fever by quinine, and to the use of supporting measures, making local treatment altogether secondary.

Falk contended that while gastric juice must be admitted to have some effect in destroying infectious substances, it is through its hydrochloric acid, and not its pepsin. Further, its effect is different upon different organisms. Thus upon the tubercle bacillus it is inoperative, while it destroys the bacillus of anthrax and the cholera fungus.

Guttmann took ground against Fränkel's view, that treatment of the diphtheritic membrane is unnecessary. He believes that the vegetable organisms in false membrane are the infectious agent, and that they are the medium of descent of the process into the larynx and trachea. This he considers proven by the fact that in 165 autopsies he has never known the larynx to be overleaped in the extension of the process, the membrane having always travelled from the pharynx through it to the parts below.

It is true that Koch's experiments discovered but a small number of disinfectants which destroyed the spores of anthrax within twenty-four hours. Such were solutions of corrosive sublimate 1 in 1000; freshly prepared chlorine water, two per cent.; iodine water, two per cent.; bromine water, five per cent.; permanganate of potassium solution; and one per cent. solution of osmic acid. A five per cent. solution of carbolic acid requires forty-eight hours to destroy the spores. While it is impossible to keep any of these agents in contact with the diphtheritic membrane for twenty-four hours, advantage might still accrue from their frequent use. Guttmann has employed papayotin in the strength of a four per cent. solution, making hourly applications to the fauces, but without effect. He had found, too, that its direct action upon false membrane immersed in it was exceedingly slow. He had obtained in one instance an astonishing effect from turpentine, which was found by Koch to be slightly more efficient in destroying bacteria than a three per cent. solution of carbolic acid. Guttmann gave it in a dose of a teaspoonful. A short time after its administration large masses of membrane were

discharged from the larynx and trachea. Subsequent use of the same remedy had not, however, been followed by similar results. Among the most ineffectual substances, so far as their action upon the spores of anthrax are concerned, may be mentioned potassium chlorate in five per cent. solution, salicylic acid, and benzoic acid.

Patchkowski earnestly recommended the treatment by ice, internally and externally. This should be maintained uninterruptedly, a fresh piece being immediately substituted for one just dissolved; and this must be done continuously night and day. Since it is unnecessary even to awaken the child, he denies that the treatment can have any fatiguing or prostrating effect. He rightly holds, too, that the ice bag is often carelessly applied, being allowed to lie simply against the front of the throat instead of being drawn closely up to the lobe of the ear on both sides. This statement we can confirm from our own knowledge, having seen efforts at carrying out the ice treatment rendered useless by inattention to this point.

Güterbock also believed that the ice treatment is the most useful, not because it contributes in any way to the solution of false membrane, since it fulfils very different indications. Children die not from membrane on the true vocal cords, where it is very seldom present, but from œdema of the aryepiglottic ligament and of the false vocal cords. For the prevention of such secondary infiltration, ice is most efficient.

From a review of the above discussion, it would seem that antipyretic and supporting measures by quinine and allied means, and the use of ice, constitute the treatment received with most favor in Berlin, while the use of disinfecting agents to the fauces has also some supporters. On the other hand, the local and general use of chlorate of potassium and iron, and the administration of large doses of calomel, which may be said to represent the special treatment of this country, do not enter largely into German therapeutics.

THE LIFE HISTORY OF EPITHELIOMA OF THE TONGUE.

Although scirrhous carcinoma of the tongue is occasionally met with, the most important of the neoplasms of that organ is epithelioma, the natural history of which has a special interest at this time, in connection with the case of a distinguished citizen, in which minute examination has disclosed that the disease is a cancer of that type.

Lingual epithelioma, as a rule, rapidly progresses towards a fatal termination. When left to itself, the life of the patient from the first appearance of the disease varies, in accordance with the estimates of different observers, from 10.5 to 13 months, the average being 11.7 months. Death ensues, first, from the generalization of the disease; secondly, from septic pneumonia, from the inhalation of the putrid emanations which result from the decomposition of the products of the ulcerated surface; thirdly, from starvation, through the pressure of the infected lymphatic glands and surrounding parts upon the œsophagus, thereby interfering with deglutition: and, lastly, from hemorrhage proceeding from the ulcerated lingual arteries, or the vessels of the neck.

The duration of life of those who survive an operation averages 19 months. Not only does operative interference prolong life and relieve suffering, but it effects a final cure in 14 per cent. of all cases. In attaining these results it must, however, be remembered that excision of the tongue is attended with a mortality of 23 per cent., the principal dangers being shock, hemorrhage, œdema of the glottis, septic lung affections, pyæmia, and erysipelas, some of which risks can be avoided by taking careful precautions during the operation, and by the perfecting of antiseptic measures during and after the procedure.

When, in addition to disease of the tongue itself, the palate and the tonsil are involved, the prognosis is far more grave, whether the disease be permitted to pursue an unaided course, or whether it be subjected to the knife. In the latter event, not only will the tongue have to be extirpated, but the disease of the palate and tonsil will have to be reached either by Langenbeck's or Mikulicz's method of operation. In the former, the jaw-bone is divided just in front of the masseter muscle, while, in the latter, the ramus of the jaw is resected. For carcinoma of the tonsil alone, temporary section of the inferior maxilla has been practised by Cheever, Gensmer, and Von Bergmann. In Cheever's case, the disease continued to progress; in Gensmer's there was freedom from recurrence for thirty-three months; while we are not aware of the fate of Von Bergmann's patient. In Mikulicz's case of resection of the ramus, the patient was well at the expiration of six months.

So far as we can learn, there is no example of the performance of the double operation on record; and it is, in our opinion, not justifiable. The only available measures are those directed toward the relief of suffering, the prevention of septic complications, and supporting the powers of the system. Should deglutition be greatly interfered with, gastrostomy might be resorted to; but this procedure, under the circumstances, is of such a questionable nature, that the prudent surgeon would doubtless not take it into consideration.

GENERAL GRANT'S CONDITION.

Since our report of last week the progress of the disease in the case of General Grant has been marked by no important change. There was a local

exacerbation on Wednesday, during which the last bridle of tissue on the inner side of the ulcer of the anterior pillar was destroyed, and the gland in the neck became enlarged. The inflammatory thickening of the mucous membrane of the hard palate has somewhat diminished, but the enlarged gland in the neck, which is deeply situated behind the angle and ramus of the jaw, appears more firmly adherent.

There has been but little pain, and the most prominent feature of the case during the week has been insomnia, which is exceptionally difficult to treat because of the sensitiveness of the patient to the disturbing secondary effects of the common remedies.

The General has driven out once or twice during the week, but has not yet felt able to resume the preparation of his memoirs.

Although, as we have before stated, an operation for the removal of the disease is not contemplated, the association with the case of such eminent surgeons as Professors Markoe and Sands is an ample guarantee to the profession that the question has not been overlooked, and that, if any operation should be deemed advisable, it would be performed with the utmost skill and soundest judgment.

A NEW PHASE OF PROFESSIONAL ADVERTISING.

THE medical public can scarcely be expected to regard with complacency some recent phases of professional propriety exhibited during the past few weeks in connection with the case of General Grant. The public at large has been taken into the professional confidence of the medical attendants with a degree of freedom quite surprising to those who regard the knowledge obtained in this relation as a sacred trust. Even the law, which requires of all witnesses "the truth, the whole truth, and nothing but the truth," so far respects the office of the physician as to permit him to withhold the information imparted to him in his professional capacity. Hitherto, the unwritten law, no less than the formal statement of our code, has enjoined on the physician the utmost reticence in all the affairs of his patients. The simplest sentiment of honor, as well as the plainest dictate of self-interest, require the medical man to observe the proprieties of his position, in the absence of precedent or legislation. But some of our colleagues appear to be indifferent to these long-recognized sentiments and proprieties. They have blazoned forth in the secular press every detail of General Grant's case, and pictorial illustration has been invoked to render their account more impressive.

It may be said, and indeed we believe this justification has been put forth, that because of the eminence of the patient, and the place he holds in the esteem of the nation, there is a demand for full information. That this plea should be extended to include facts which can be appreciated only by those who have had a technical training, is certainly erroneous, and one of the most influential papers of the day (*Harper's Weekly*) energetically protests against this assumption. A daily bulletin, free from technical details, would much more aptly satisfy the public anxiety than the elaborate descriptions fit only for medical journals. It looks as if other and different considerations than an amiable desire to satisfy the public curiosity have induced the publication of professional details. Elements have been at work which have apparently lowered the standard of professional morality. As any chain is no stronger than its weakest link, so any measure which lessens the binding force of our medical code at any point, weakens it throughout. In the latest example of questionable professional ethics, we find ample evidence of the undermining action of those provisions of the "new code" which have abolished the barriers between legitimate medicine and all kinds of irregular practice.

The ethics of a proper professional status once ruptured, there is no limit to the disintegration which will ensue, and it behooves the profession, at once, to place its emphatic disapproval upon this disregard of the rights of patients. Medical men should not allow themselves to be interviewed by the daily press, to break down the barriers which surround the confidential relation of physician and patient, and to give to the public minute details of the progress and treatment of a disease, even though it be in the case of a most distinguished citizen, in whose welfare fifty millions of people feel a deep interest.

INFANTILE OVARIAN HERNIA.

IN the *St. Petersburger Medicinische Wochenschrift*, No. 4, 1885, may be found the record of an incarcerated hernia of the ovary in an infant seven months old. A small tumor existed in the left inguinal region, which disappeared on pressure, but returned on withdrawing the pressure, and gave rise to no general symptoms. When next seen by DR. SCHMITZ, the tumor, which was of the volume of a pigeon's egg, and seated at the outer ring, had been irreducible for eight days, and was extremely painful. Efforts at the taxis, under chloroform, having failed to reduce the tumor, it was extirpated, the sac ligated and excised, and the broad ligament tied and returned. At the expiration of ten days the wound had completely united.

The occurrence of ovarian hernia in infants is very uncommon, and, unless we mistake, this is the second operation for that lesion on record, the first, which proved fatal from peritonitis, having occurred to Guersant. It is also interesting to note that Dr. Schmitz found an ovarian hernia, as large as a pea, in a child of the same family five weeks old.

SOCIETY PROCEEDINGS.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Stated Meeting, March 5, 1885.

The President, B. F. Baer, M.D., in the Chair.

Dr. William Goodell read a paper entitled

A YEAR'S WORK IN LAPAROTOMY.

(See page 313.)

The President presented a

GANGRENOUS FIBROID TUMOR OF THE UTERUS,

and made the following report of the case: Mrs. J., a patient of Dr. Ira D. Canfield, of Renova, Pa., 52 years of age, married, has had one child eighteen years ago; she has not been pregnant since. Her abdomen had been rather prominent for years, and about five years ago she discovered that it was becoming quite firm and hard over the lower protuberant portion. About the same time her menses began to appear more frequently than usual and to continue longer, until during the last year she flooded continuously three weeks out of every four. She thought she sometimes lost a quart of blood in twenty-four hours. There was great tenderness over the abdomen, so that the weight of the clothing was intolerable and she had a constant feeling of painful distention, a sensation of bursting sometimes. These symptoms increased in severity, and in the latter part of January, 1885, labor-like pains supervened. Paroxysms of uterine tenesmus occurred several times a day, resulting finally in a discharge of serous fluid and gas which must have been considerable in quantity, for the next morning there was marked subsidence of the previously distended abdomen. However the large, dense, round, and evidently, uterine tumor still remained, tolerating now comparatively rough manipulation, the tenderness having almost entirely disappeared. The quasi-labor-pains increased in frequency and strength, and shreddy putrid masses were occasionally expelled from the vagina. The patient began to show evidences of acute septicæmia. Dr. R. Honesbourg, of Lock Haven, was now called in consultation, when it was determined that nature was endeavoring to cast off a decomposing uterine fibroid, and an effort was made to assist. Symptoms of blood poisoning became alarming.

On February 15th I was hurriedly summoned, and with the patient anæsthetized we found the following condition: Abdomen distended and tympanitic; a globular and symmetrical mass outlined within the lower portion of the abdomen, extending two inches above the umbilicus, about the size and consistence of the pregnant uterus at the seventh month of gestation. Hanging from the vaginal orifice was an elongated mass of toneless decomposing tissue, which resembled the appearance which might be presented by a great mass of amniotic membrane which had been allowed to remain in the parturient canal for several days after labor. It had a purplish ashy color, and was as thick as my forearm. The odor emitted was sickening. Passing my hand beside this mass, for I could not easily separate it, I found the os uteri so dilated that the vaginal and cervical canals were almost of the same calibre, and the rim of the os could scarcely be defined. Advancing my hand within the cavity of the uterus, it passed among an immense quantity of semi-friable soft and shreddy tissue, and discovered several large tumors of firm consistence embedded in, and apparently one with, the uterine wall. Indeed, it was difficult to define the uterine wall, so irregular and thick was it at some points and so thin at others. The tissues at the attenuated portions—the uterine wall proper—appeared so weak that I feared the manipulations necessary to enucleate the tumor would make rupture of the uterus imminent. But their immediate removal was imperative, and fortunately their attachments were softened by the process of degeneration which had caused the grave symptoms. I, therefore, introduced Thomas's spoon-saw, and with that and my fingers I separated and removed section after section until there was nothing left of the uterus but the merest shell. The aggregated quantity removed, a portion of which I present this evening, almost half filled a wooden bucket. The uterus did not contract well after the operation and very free hemorrhage occurred, but it was controlled and the uterus made to contract by large and repeated injections of pure vinegar. The after-treatment was carefully and judiciously conducted by Dr. Canfield, and consisted of injections, into the uterine cavity, of vinegar twice daily, until all fetid discharges had ceased. The improvement in the temperature and pulse of the patient was remarkable, and within a few days she expressed herself as feeling better than she had for years. She is now sitting up, apparently restored to health.

Dr. Harris inquired the cause of the gangrenous change in the structure, Was it confined to the new tissue?

Dr. Goodell thought that the process of auto-enucleation was the cause of the degeneration of the tumor. The latter is a low grade of formation, and the contractions of the uterus and the constriction caused by the cervix uteri around the already extruded portion interfered with the circulation in the tumor and caused its death. In one case he removed a tumor in which this process had just commenced; the removal of the tumor was followed by a gush of near half a pint of broken-down blood which was very offensive in odor. A sharp attack of erysipelas followed.

Dr. Baer could give no other reason than that advanced by Dr. Goodell. The tumor was of slow growth; no ergot was given, but labor-like pains supervened and may have cut off the circulation. The degeneration was apparently confined to the new growth.

The President presented the specimen and read the following report of a rapidly growing

PAPILLOMATOUS OVARIAN CYST.

Mrs. G., æt. 41, widow for eight years, has had eight children, the youngest being nine years. She always enjoyed robust health until September, 1884, three months before I first saw her. At that time a slight metrorrhagia began without pain or other disturbance. Previous to that time her catamenial periods had been regular. In October she noticed that the lower portion of her abdomen was slightly enlarged a little to the left of the median line. She thought nothing of it then, but thought that she was growing fat. The hypogastrium, however, continued to distend and she began to

lose flesh. Her physician, Dr. A. R. Blair, of York, Pa., brought her to see me on January 3, 1885. Her abdomen was then as large as at the sixth month of gestation, symmetrically developed, perfectly smooth, dull on percussion over the distended portion, but resonant in flanks and epigastrium, and there was marked fluctuation. Dark bloody discharge from uterus, not fetid. It was thought she was pregnant and that the metrorrhagia was due to threatened miscarriage. But she was losing flesh, and there were no rational or physical signs of pregnancy except abdominal enlargement. The uterus was slightly prolapsed and retroverted, rather softer than natural, os patulous, cervix granular; sound two and a half inches; uterus not easily moved because of a mass pressing upon it from above. I diagnosticated a rapidly growing ovarian cyst, and advised immediate operation; but she was not ready. I saw her again on February 7. The tumor had increased to double the size it was at first examination. It was still symmetrical and occupied the same relation to the uterus. She was losing flesh and strength. She now complained of pain all over anterior surface of abdomen, and her pulse and temperature were slightly elevated. She at no time suffered pain in the tumor.

On February 18th she entered my private hospital. Had increased greatly in size during the intervening ten days. Circumference at umbilicus forty-six inches, veins in abdominal wall distended. Tumor still symmetrical and markedly fluctuating. Metrorrhagia has continued daily since its first appearance in September. Suffers from dyspnœa. Pain over surface as before, and abdominal wall seems to be one with the tumor. I suspected, from this circumstance, adhesions of tumor to peritoneum. Urine normal.

Operation.—February 20th, 11 A.M., assisted by Drs. D. J. M. Miller, J. C. Gabell, in the presence of Drs. A. R. Blair, J. W. Kerr, and F. B. Hazel. Incision three inches; tumor almost universally adherent to anterior wall of abdomen and omentum, and very vascular. I passed my hand and separated adhesions, and then tapped the cyst; the fluid had the color and consistence of healthy pus, and was more than an ordinary wooden pailful in quantity. Solid portion of tumor, larger than the fœtal head at term, was delivered through the small incision. The tumor proved to be of the left ovary and had a very short and vascular pedicle, which held it in close contact with the uterus. Ligated and amputated omentum, transfixed and ligated the pedicle with fine Chinese silk, cut and dropped. The right ovary being perfectly healthy, was not removed. The uterus was soft and congested. Peritoneum purple from congestion, but there had been no ascitic fluid and the peritoneal cavity was found almost free from liquid. Probably ten minutes were spent looking for bleeding vessels and finishing the "toilette of the peritoneum." Abdominal wound then closed with eight silk sutures. The patient recovered from the anæsthetic without any evidence of shock; pulse 98; temperature normal; and she continued to do well until the second day, in the evening of which her temperature reached 100°, its highest point; pulse 108, and strong. She complained of being tired and looked worn. She had not passed flatus from the anus, but there were occasional eructations of foul gas. There was no tympany and no pain, but at about 11 P.M. she vomited or rather regurgitated about a pint of very fetid yellowish liquid of a decidedly fecal odor. The large quantity (she had not taken a teaspoonful of anything since the operation) and the odor, together with the fact that she had not passed flatus from the anus, caused me to suspect intestinal obstruction. Her temperature fell soon after this to 96°, and her pulse rose to 150, and became very weak. There was no pallor of countenance, or distention of abdomen or Douglas's cul-de-sac, or I should have thought this depression, bordering on collapse, was due to hemorrhage. Neither were there any other symptoms of intestinal obstruction than the apparent fecal vomiting and the non-escape of flatus from the rectum.

Under the influence of active stimulus, by the rectum and hypodermically, she slowly rallied, but the temperature did not reach the normal point until the fifth day after the operation when flatus began to escape from the rectum. Her recovery was rapid after this. The sutures were removed on the eighth day. Union complete and solid. She sat up on the thirteenth day. There has not been any bloody discharge from the uterus since the operation.

The tissues of the cyst wall are very friable, and the internal surface is studded with an exuberant papillary growth presenting an appearance not unlike cauliflower excrescence.

The very rapid growth of this tumor to the great size which it attained in five months, the constant metrorrhagia and the character of the tumor, place this case quite out of the usual course of development of ovarian cysts, and make it worthy of record. These are characteristics of malignant disease. Is this a malignant tumor? I think not, in the sense that it will necessarily return, now that it has been removed before the cyst wall had broken down and discharged its contents into the peritoneal cavity. This is the course of papillomatous ovarian cysts. But even when this has occurred and the peritoneum become involved, the disease may not return after removal. Some years ago I assisted Dr. Goodell in the removal of a papillary growth of the ovary in which the cyst had ruptured and discharged its contents into the peritoneal cavity. The peritoneum was greatly involved, being thickly studded at various points with hard papillary nodules. The patient recovered, and the disease has not returned. Dr. Emmet records a like experience. He says: "I have never regarded the condition as malignant in character or in any respect more than a benign growth, accidental to ovarian tumors and accompanied by an ascitic accumulation (ascites complicates a later stage of the disease than my case had reached). I have, however, sometimes observed in this supposed malignant disease that patients bore the shock of the operation badly, and died from apparently trivial causes" (*Prin. and Prac. Gynec.*, 3d ed., p. 683). It is probable that ovarian cysts of very rapid development often have this papillary character. One of the specimens which I presented to this Society at its last meeting was of this description, though less marked; and it had attained a size of thirty pounds in nine months. It is also probable that the constitution is more profoundly affected by these growths than by the ordinary slow-growing ovarian cysts. For these reasons operation should never be deferred in such tumors.

Dr. Harris inquired whether any microscopic ex-

amination of the tumor had been made. He always suspected malignancy in rapid growths, and in papillomatous tumors the decision cannot be made from appearances, as of two such having the same apparent characters, one may prove to be malignant and the other benign.

Dr. Goodell remarked that the question of malignancy in ovarian tumors was a most interesting one. As regards papillomatous cysts, Doran has divided them into two classes: One springing from the hilus of the ovary and not necessarily malignant, while papillary growths in cysts of the broad ligament usually indicate malignancy. Some years ago he removed a collapsed papillomatous ovarian cyst upon which the late Dr. Hodge had refused to operate in consequence of supposed malignancy. It was complicated by ascites and the peritoneal cavity had become infected with secondary growths; yet the woman got well and has probably remained well. On the other hand, benign-looking growths are sometimes malignant; for instance, he removed a large tumor having many adhesions, twenty-four ligatures were left in the abdominal cavity. It was wholly benign in appearance and the patient got up and about, but soon she became oppressed by rapid breathing. Effusion into the right pleura was discovered, together with malignant growths affecting that cavity and scattered throughout the abdominal cavity. The tumor was evidently malignant, but it did not look so. In another case of apparently benign cyst, in which the clamp was used, menstruation occurred from the cicatrix, and later papilloma of the stump and abdomen sprouted out from the cicatrix and the patient died. He said that all his cases of colloid tumors, three in number, have become malignant afterwards. In one case, five years after the first operation, the second ovary became diseased, the sac burst and the whole contents of the peritoneal cavity became infected. In another, two years after the removal of both ovaries, the disease returned in the broad ligament, probably from the stump of the ovary. In another case the cicatrix burst open a few weeks after the operation, and a large papillomatous growth sprouted out, the lady dying soon after. Tait considers that among the causes of malignancy are tapping and delay in operating, the age of the cyst tending to malignancy. Dr. Goodell doubted if the microscope can distinguish between benign and malignant papillomata. Virchow states that although benign at the beginning, they may become malignant in the later stages.

NEW YORK SURGICAL SOCIETY.

Stated Meeting, February 24, 1885.

The President, Robert F. Weir, M.D., in the Chair.

Dr. A. C. Post narrated a case, that of a boy, nine years of age, who was brought to his clinic with a

BURSAL SWELLING AT THE BACK PART OF THE WRIST,

and in which he made an effort to rupture the sac by striking it sharply with a wooden bat. The first blow did not rupture the swelling, and he repeated it several times, and found that a dangerous degree of force would be required to rupture it in that way. He then punctured the cyst, and pressed out exceedingly viscid contents, much more viscid than is the vitreous humor. After squeezing out the contents through a small opening he applied an antiseptic lotion, and afterwards applied a compress made of cork, which he bound over the swelling with a bandage, and this was allowed to remain for a week, when the patient returned, and on removing the dressing he found that the cork had made a marked depression of the surface where it had been applied, but that there had not been the slightest inflammation, and the case was progressing favorably.[1]

Dr. Sands inquired how frequently the members of the Society had performed cutting operations for the cure of this disease. The treatment by rupture, as described by Dr. Post, had doubtless often yielded good results, but not unfrequently the relief afforded proved to be temporary. Another method of evacuating the cyst was to open it subcutaneously with a broad needle. His own experience with this method had been generally favorable, yet he had known it to fail to accomplish a permanent cure. He had lately seen a patient who had been treated in this manner by an eminent surgeon in New Haven. The operation being followed by a recurrence of the swelling, the surgeon again emptied the cyst in the same way, and as the contents flowed out through the puncture, he inserted a hypodermic needle into the opposite wall of the sac, and injected it with a strong solution of carbolic acid. This procedure was also unsuccessful, and when Dr. Sands saw the case, the tumor was of irregular shape and nearly as large as an English walnut, constituting a very conspicuous deformity. Dr. Sands advised a trial of iodine injection, and had since heard that this had been successfully employed. His knowledge of the extirpation of such ganglia was limited to two cases. The first one he himself treated by excision, a good many years ago, and was able to dissect out the cyst without opening the sheath of the tendon, the patient making a good recovery.

The other case occurred in the practice of a medical friend, before the days of antiseptics. Excision was performed, the parts being rendered insensible by ether spray. Violent inflammation followed the operation, and rendered the hand nearly useless. Dr. Sands saw the patient several years afterward, when she was unable to flex the fingers, and there was but little motion of the hand. In that case the sheath of one of the extensor tendons of the thumb was opened, and it was feared at the time of the operation that mischief would follow. Probably at the present day there would be but little risk of phlegmonous inflammation following such an accident, and, in some instances, an operation for the complete removal of the swelling might be indicated as the only effectual means of accomplishing a cure.

The President referred to the fact that Dr. Abbe in the out-patients' department of the New York Hospital had shown him three cases, in two of which he had resorted to puncture, and in the third to an incision, packing the sac with iodoform. In all instances the cases had done perfectly well. The operation of incision and packing with iodoform had struck him as one worthy of trial.

[1] The patient was seen again after the lapse of another week, and there was nothing to indicate a return of the swelling.

DR. STIMSON said that he had recently made subcutaneous puncture by means of a flat needle in two cases, both of which did well.

DR. SANDS thought that the subcutaneous puncture was always safe.

DR. POST remarked that he attempted subcutaneous puncture in his case, but the cyst was so thick that the fluid was oozing out before it was complete.

THE PRESIDENT referred to one case in which a ganglia had been injected with carbolic acid with severe reaction for which he was called upon to dissect the tumor out. The wound thus made healed promptly.

DR. PETERS remarked that one of the earliest operations he performed was subcutaneous puncture of one of these swellings upon the wrist of a very old gentleman, and the result was good.

REMOVAL OF THICKENED BURSA FROM OVER THE TROCHANTER MAJOR.

THE PRESIDENT presented a specimen removed from over the trochanter major of a married woman which appeared shortly after her confinement with her last child, two years ago. It did not seem to be associated with labor, and was not noticed until after she was up and about. The swelling was treated by counter-irritation without relief; increase in size slowly took place; finally a tumor about the size of an egg was revealed. He then thought it was probably a fibro-sarcoma; and, from its not being quite certain whether or not it was movable on the femur, that it might be of periosteal origin. At the operation performed three weeks since, it was found to be a bursa over the trochanter major under the gluteus maximus muscle, with walls nearly an inch in thickness, and constituting a mass as large as a goose egg. The central cavity was about the size of an almond. Recovery was prompt.

LITHOTRITY UNDER COCAINE.

THE PRESIDENT referred to a case in which he had performed lithotrity within the last ten days under the influence of cocaine. The patient was a man 72 years of age, with marked cardiac lesions, and his condition was such as to preclude general anæsthesia. He had long suffered from prostatic trouble, and a number of years ago submitted to an operation of prostatotomy by Dr. Gouley, with marked benefit. The calculus was about three-quarters of an inch in diameter, and phosphatic in character. Lithotrity, practised after the old method, was twice tried, with considerable suffering to the patient, but his condition was so poor that further efforts in this way could not be entertained. The patient's vesical sufferings were so great that he finally determined to see whether cocaine would be of sufficient service to enable him to remove the remainder of the calculus. He, therefore, on February 5, injected into the bladder, previously washed out with warm water, three drachms of a four per cent. solution, and allowed it to remain fifteen minutes, when an additional quantity of water was thrown in and the lithotrite was introduced. Although the urethra was still somewhat sensitive, the pain in this part was very much lessened, the bladder was entered without distress, the stone seized, from five to eight crushings rapidly made, Bigelow's apparatus No. 29 curved catheter introduced, and the aspiration effected. The entire operation occupied not more than eight to ten minutes. While the procedure was not absolutely painless, the cocaine reduced the sensibility of the invaded urinary tract to such a marked degree that the patient endured the operation without special difficulty. In the *Lancet* of January 17, received the day Dr. Weir operated, there is a report of a similar operation in which the cocaine had been used with much more satisfactory results. The patient was operated upon at St. Peter's Hospital, and the stone had been crushed and withdrawn in less than fifteen minutes in a painless manner. In this case, four drachms of a four per cent. solution were injected into the bladder.

DR. MARKOE inquired if there were any cases on record in which unfavorable effects had been produced by cocaine when applied to the unbroken mucous membrane.

Dr. WEIR replied that he knew of none.

DR. HALL remarked that he had seen constitutional symptoms produced by an injection into the urethra of two drachms of a four per cent. solution of cocaine. He had discovered also what did not appear to have been previously noticed, namely, that while small quantities produce vaso-motor spasm, and consequently anæmia of the part, large quantities produce vaso-motor paralysis and congestion. In the same way, when a dose just large enough to cause constitutional symptoms was given, the patient had dilated pupils, with pallor of the face, nausea, and a small hard pulse; while, after much larger doses, the pupils were not more dilated, nausea and pallor were absent, the pulse was full and soft, and a dreamy mental condition was produced.

THE PRESIDENT remarked that, had he been compelled to consider the subject of lithotomy, in his case he should have attempted to perform the operation by the aid of the local anæsthetic effect of cocaine. His experience in the removal of superficial tumors and in several quite deep incisions for pus had satisfied him that such an operation as lithotomy might be accomplished by the use of cocaine.

DR. BRIDDON had seen considerable relief follow the injection of one drachm of a two per cent. solution into the bladder for the relief of vesical tenesmus associated with prostatic trouble. He had one patient under observation in the Presbyterian Hospital who had used it every night, with the result of obtaining about two and a half hours of rest, for which no opiate or any other treatment afforded more than half an hour of relief.

MEDICO-CHIRURGICAL SOCIETY OF MONTREAL.

Stated Meeting, March 6, 1885.

PROF. T. G. RODDICK IN THE CHAIR.

PROF. GEORGE ROSS read a paper on a case of

PULSATING EMPYEMA,

simulating aneurism; spontaneous rupture, and recovery.

G. W., æt. 37, express driver, was admitted to the Montreal General Hospital, December 29, 1884, suffering from a sharp pain in the left side, a short cough, and feverishness. Four years ago had an attack of pneumonia, but with this exception has always been healthy. No history of rheumatism or syphilis. On December

24th, he got a severe wetting; on the 26th, had a chill followed by a stitch in the side. When admitted into hospital his skin was hot and dry, and he had an herpetic eruption on his lips, complained of severe pain in the left lower axillary region, increased by inspiration and pressure over the part; cough short and accompanied by expectoration of glairy mucus; temperature 103°; pulse 120, small and weak; respiration 24, short and shallow; tongue moist and coated. Examination showed somewhat deficient expansion of left side, dulness of base of left lung, and weak respiratory murmur with diminished resonance and fremitus of same area.

Patient continued much the same for several days, with high temperature and pulse always above 120. On the 2d of January there was dulness to angle of scapula and through lower axillary region. During the following week he suffered a great deal of pain in the left side which prevented him from sleeping, the fever still continued and he was inclined to sweat a great deal. On January 8th, the dulness in lower area of left side was much less. On percussing the front of the chest, a flat note was found, commencing at the upper margin of the second left costal cartilage and continuous with that of the heart. This dull area was bounded externally by a line drawn through the nipple and passed across the sternum a little to the right side. Expansion of left side of chest much impaired, second and third intercostal spaces were prominent and presented a quite perceptible pulsation synchronous with the systole of the heart. These pulsations were felt quite strongly on palpation. In this dull area vesicular murmur was almost absent.

During the next two weeks the case appeared to be stationary; temperature was always above normal; the patient sweated a good deal and emaciated considerably; the pain was persistent and rendered intolerable by any attempt to lie on the left side; the physical signs remained as before. On the 22d of January a rough friction sound was heard along the right margin of the sternum from near the clavicle to the third rib; all this time he had increased fever with nausea and vomiting, and pain was very much complained of in the dull region under the left clavicle. On the night of the 2d of February he had a severe fit of coughing, which was immediately followed by the outflow of about a pint of pure inodorous pus, which was brought up in the course of a few minutes. When seen next morning, he had a loose cough, every effort serving to bring up a large mouthful of pus; in this way half a pint or more was expectorated during the day. The percussion note, previously dull, at once changed to a clear and somewhat tympanitic note. The pulsating tumor had entirely disappeared. For a few days a loose cough with some purulent expectoration continued, and then ceased entirely. The temperature fell to normal, percussion became pulmonary in quality, the respiratory murmur became normal, and sleep and appetite soon returned. He left the hospital on the 2d of March strong and well.

Prof. Ross, in his remarks on the case, said it was evident from the history of this case that a considerable collection of pus was formed in the upper part of the chest, upon the left side, as a result of an acute pleuritic inflammation. He explained the occurrence of pulsation as due to the fact that the empyema was so situated that it communicated very distinct pulsations, either from the heart itself or the aorta, to the surface of the thorax, and that the empyema discharged itself by opening into the air-passages. He went on to remark that the symptoms resembled closely those met with in aneurism of the thoracic aorta, viz., localized dulness well defined, to one side of and beneath the upper portion of the sternum, prominence of the spaces, and above all pulsations, very distinct and easily felt and seen. In addition, there was very decided enfeeblement of the respiratory murmur. On the other hand, there was no bruit, no intensification of the second sound, no fulness or palpable pulsation behind the manubrium, and no downward traction on the trachea. These points, as well as the clinical history, Dr. Ross thought, at the time, decided against aneurism.

The most difficult thing to explain was the great obscuration of the vesicular murmur throughout the entire lung, and as the percussion note was not obviously altered from that of the opposite side, the conclusion was inevitable that the absence of tidal air must be explained by the existence of pressure upon the main branches. Dr. Ross stated that he had never met with this condition as a result of an advancing collection of fluid, but had often seen it brought about by the advancing pressure of a growing neoplasm or aneurismal tumor. Although Dr. Ross looked upon the affection, at the time, as probably an empyema, the possible existence of some obscure neoplasm (not an aneurism) was not to be lost sight of, as perhaps complicating the case,

Dr. Ross thought that if the case had been seen for the first time on January 8th, with an imperfect clinical history, it might easily have been mistaken for aneurism. The symptom of pulsation in connection with empyema, although very rarely seen, has been known for a long time. Le Roy many years ago recognized it, and says that it closely simulates aneurism. In the case narrated, Dr. Ross thought that the pulsations observed were communicated from the aorta, as this vessel, being filled by each successive systole, would necessarily compress a sac of fluid in immediate contact with it, and, if the latter touched the thoracic parietes, would cause visible pulsations upon the surface; on the other hand, when pulsations are observed in the side of the chest from the heart itself, these must be produced by the lateral movement of the heart from right to left, during the systole, because with the contraction the heart does not increase in bulk, and could not, therefore, produce compression in an adjacent body of fluid. In conclusion, Dr. Ross remarked that the full explanation of these communicated pulsations is an interesting subject, and one which is not very satisfactorily dealt with in medical literature.

NEWS ITEMS.

CINCINNATI.

(*From our Special Correspondent.*)

The College Commencements.—The classes graduated by our colleges this year have been unusually small. The Medical College of Ohio conferred the degree upon about sixty, the Miami College upon about half that number. The commencement exercises of the former institution were held on Thursday evening,

March 5th, and were witnessed by a large and appreciative audience. After the conferring of the degree by the President of the Board of Trustees, the Hon. M. F. Force, a large list of prizes were awarded, and the successful candidates for the position of resident physician to the hospitals, three to the Cincinnati and two to the Good Samaritan, were announced. The valedictory address was delivered by Professor J. T. Whittaker, his subject being, "A Chapter from the History of Medicine."

The commencement of the Miami Medical College occurred Tuesday evening, March 10th. The subject of the valedictory by Prof. F. W. Langdon, was "The Germ Theory of Disease."

The Sanitary Council of the Mississippi Valley met at New Orleans on Tuesday, March 11, and was called to order by Dr. Joseph Holt, President of the Louisiana State Board of Health, and Colonel D. P. Hadden, President of the Council, took the Chair.

Dr. Pinckney Thompson, of Kentucky, introduced the following resolution, which was adopted:

Resolved, That Drs. Kedzie, Holt, Robertson, Rauch, Chaillé, and the President of the Council, be appointed a committee to formulate a system of coöperation of the States represented in the Council, to prevent the introduction of yellow fever or cholera in the Mississippi Valley, and also a plan of coöperation should either of these once gain admission to the Mississippi Valley.

On Wednesday this committee reported, recommending that the Secretary of State be petitioned to cause the consuls and consular agents of all ports from which ships clear for the United States, to furnish not only the usual information embraced in bills of health, but all particulars in regard to the existence of contagious, infectious, or epidemic diseases, which may endanger the public health by importation by vessels reaching our shores.

The Sanitary Council regards the exclusion of all vessels unmistakably infected with cholera or yellow fever from the Mississippi River as vital to the safety of the West, South, and the Northwest. It therefore petitions the Secretary of the Treasury to place a revenue cutter at the mouth of the Mississippi River to prevent the entrance of all such infected ships, and to send them to Ship Island or other refuge stations for quarantine and purification.

If, however, an infected vessel, or one suspected to be infected, enters the Mississippi River, the State Board of Health of Louisiana shall remand such vessel to a station of detention and absolute isolation until all danger of the spread of the disease by ship, cargo, crew, and passengers, has been entirely removed; the ship to be thoroughly cleansed and disinfected; the cargo to be disinfected; the baggage thoroughly disinfected, and the crew and passengers kept under observation until free from all suspicion of danger to the public health.

In view of the threatened invasion of cholera, the President is earnestly requested immediately to place the emergency epidemic fund in the hands of the National Board of Health, to be used in aid of State and Local Boards of Health in preventing the introduction and spread of cholera and yellow fever in the expectation that an adequate portion of this fund (not less than $50,000) shall be placed at the disposal of the State Board of Health of Louisiana, to hold this gateway of the South and West.

In the event of an epidemic of cholera or yellow fever, the first consideration of concert of action among health officers is confidence. This can be secured only by early, full, and free information of all the essential facts at points of outbreak. To secure such information, each and every health organization represented in this Sanitary Council pledges itself to furnish promptly to each other all information in regard to the appearance of cholera and yellow fever, or suspicious cases of yellow fever or cholera.

For the purpose indicated in the above resolution the following groups of symptoms shall be considered to indicate yellow fever and suspicious cases:

I. The following groups of symptoms shall be considered to indicate *yellow fever:*

Group 1.—A person after a sudden attack has fever of one paroxysm, attended with marked congestion or blood stasis of capillaries of surface, conjunctivæ, and gums, with a history of probable exposure to infection, and no history of a previous attack of yellow fever.

Group 2.—A person after a sudden attack has a fever of one paroxysm, followed by unusual prostration, albuminous urine, yellowness of conjunctivæ or skin, and having no positively authenticated history of previous attack of yellow fever.

Group 3.—A person has a fever of one paroxysm, albuminous urine, black vomit, suppression of urine, general hemorrhagic tendency under circumstances where exposure to infection is a possibility.

II. *Suspicious cases of yellow fever.*—The following symptoms, associated with a fever of one paroxysm, in a patient who has apparently been exposed to infection, and has never had yellow fever, shall be held to justify in either of the six following cases a suspicion of this disease, viz.:

1. Suddenness of attack either with violent pain in the head and back, injected eyes and face, or with marked congestion of the superficial capillaries.
2. Want of that correlation between pulse and temperature usual to other forms of fever.
3. Albuminous urine.
4. Black vomit.
5. General hemorrhagic tendency.
6. Yellowness of the skin.

The following cases shall also be deemed suspicious:

7. Any case respecting which reputable and experienced physicians disagree as to whether the disease is or is not yellow fever.
8. Any case respecting which efforts are made to conceal its existence, full history, and true nature.

In the event of death of a suspicious case a postmortem examination should be made, when practicable. Both before and after death, yellow fever is specially and preëminently characterized by the fact that it is par excellence a hemorrhagic fever, marked by capillary congestion and its sequelæ, hence postmortem evidence of a general hemorrhagic tendency in internal organs, especially in the digestive, in preference to the urinary tract, shall be held to confirm the suspicion.

The following conditions shall be held to justify a *suspicion of cholera* and to require from sanitary au-

thorities the same preventive treatment as if known to be cholera:

1. Any case of disease resembling cholera and attended with "rice water evacuations," shall be reported and treated either as cholera or as a suspicious case.

2. Any case respecting which reputable and experienced physicians may disagree as to whether the disease is true Asiatic cholera or not, shall be reported and treated as suspicious.

3. Any case rumored to be cholera, and respecting which efforts are made to conceal its existence, full history, and true nature, shall be reported and treated as suspicious.

4. Any notable and exceptional increase in the number of cases of, and of deaths by, such bowel disorders, as cholera morbus and diarrhœa, shall be promptly reported.

Sanitary inspection of steamboats carrying passengers and freight from the Gulf ports into the interior, in the case of an outbreak of cholera or yellow fever.

Proposition 1.—Every captain or commanding officer shall keep in a book of permanent record the sanitary history of his steamboat. Such captain or commanding officer, before leaving a seaport city or town, shall obtain a certificate from a medical inspector, which certificate shall be entered upon and form a part of said record, certifying that he has personally examined the steamboat, and that all the rules and regulations adopted by this Council, relating to the cleansing and disinfection while at the docks and wharves of such city or town, have been complied with. Said certificate shall also state that the cargo of freight, of whatever description, is in good sanitary condition, and may be safely transported to its point of destination.

Proposition 2.—The captain or commanding officer shall daily enter upon this record all facts relating to the health of the passengers and crew, and the amount and kind of sanitary cleansing during the passage, and such captain or commanding officer shall verify by affidavit, at the time of inspection, the correctness of the daily record.

Proposition 3.—The reinspection of said boat shall be required only at the point of destination (except as hereinafter provided), at which point the medical inspector shall examine, before she discharges her cargo, the sanitary record of the boat and the boat itself. If such record has been neglected, and the boat is in a bad sanitary condition, the medical inspector shall require proper sanitary cleansing and disinfection before the cargo is discharged or a new cargo is put on board. On the return passage the same rules apply.

Proposition 4.—All boats navigating the Mississippi River shall undergo inspection and reinspection, in the same manner as above provided, upon arrival at New Orleans, Vicksburg, Memphis, Cairo, St. Louis, and the point of destination.

Boats navigating the Ohio River shall undergo a like inspection and reinspection at Evansville, Louisville, and Cincinnati.

Proposition 5.—Whenever cholera or yellow fever prevails at any of the Gulf ports, the medical inspector shall certify on the record the precautions that have been taken, and the danger to be apprehended from cargo, passengers, and crew. The reinspection must be made at least one mile from a town, at a point suitable for the care of the sick, detention of the well, and the disinfection and cleansing of cargo and boat.

Proposition 6.—The foregoing rules and regulations shall also apply to tugs, tows, and barges.

Proposition 7.—River craft found infected, or suspected of infection, shall be promptly isolated and cared for at the nearest quarantine and refuge stations, of which an adequate number shall be provided for on the Mississippi River and its chief tributaries.

Sanitary supervision of railroads, and of travel and traffic by railroads during an epidemic of cholera or yellow fever.

Proposition 1.—Whenever a railroad train departs from an infected station, no person with cholera or yellow fever shall be allowed to take passage on such train. The baggage from such infected station shall be thoroughly disinfected before leaving such railroad station, by the use of the bichloride of mercury. At a point not less than fifty nor more than seventy-five miles from the point of departure from an infected place, there shall be an entire transfer of passengers and baggage to another train of cars, which train shall never enter an infected district. This transfer shall be made under the supervision of a medical officer. No person with cholera or yellow fever shall be allowed to proceed on this train, but shall be returned to the point of departure, or be treated in hospital at the place of transfer.

Your committee further recommends that a special committee of three on general sanitation, and the details of precautionary measures for the prevention of epidemic diseases, and especially of Asiatic cholera, be appointed by the Sanitary Council, with power to publish in behalf of the Sanitary Council.

The report was received and ordered published as the report of the Council.

On motion of Dr. Kedzie, in compliance with the report, Drs. Rauch, Holt, and Thompson, of Kentucky, were appointed as the Committee on General Sanitation.

On motion of Dr. Chaillé, the following resolution was adopted:

Resolved, That the Secretary request from the Chairman of the Committee on Disinfectants, appointed at the last meeting of the American Public Health Association, a plain, practical paper on disinfection and disinfectants for popular use and distribution, to be furnished to the Chairman of the Special Committee of this Council on General Sanitation.

At the election of officers for the ensuing year, Dr. Pinckney Thompson, of Kentucky, was elected President, and Dr. John H. Rauch, of Illinois, Vice-President and Secretary of the Council.

The American Journal of the Medical Sciences.—Our venerable contemporary, *The Edinburgh Medical Journal* (March, 1885), in speaking of the career of the American publishing house now known as Lea Brothers & Co., says, "Its imprint will be found on the works of many of the most notable of our professional brethren in America, and its famous periodical, *The American Journal of the Medical Sciences*, of which the late Dr. Isaac Hays was editor for more than half a century, has been eminently instrumental in gaining for American medicine a world-wide respect."

THE INDEX MEDICUS.—We are in receipt of a circular from Drs. Billings and Fletcher, announcing that Mr. George S. Davis, of Detroit, has undertaken to continue the publication of the *Index Medicus* on the same general plan, and with the same regard to typographical accuracy and finish, as heretofore.

On account of the delay required to perfect this arrangement, the first number of the journal for the current year will comprise the literature of January, February, and March, after which it will appear monthly as usual.

At the end of the year, in addition to the usual annual index of names, subscribers will be furnished with an index of subjects to the volume.

So many expressions of regret and urgent remonstrances in regard to the threatened discontinuance of the *Index Medicus* have been made, that the profession is to be congratulated on Mr. Davis's public-spirited determination to carry on the enterprise in spite of the fact that thus far it has not been pecuniarily remunerative.

It is requested that all exchanges, and books and pamphlets for notice, be sent to *The Index Medicus*, Washington, D. C.

STARLING MEDICAL COLLEGE.—The Thirty-eighth Annual Commencement of this institution was held at Columbus, Ohio, on March 4th, and the degree of M.D. was conferred on thirty graduates. The medical class, we are informed, was one-fifth larger than last year.

THE COLLEGE OF PHYSICIANS AND SURGEONS OF BALTIMORE, on the 13th inst., graduated a class of 154.

THE WOMAN'S MEDICAL COLLEGE OF PHILADELPHIA held its annual commencement on the 11th inst., and conferred the degree of M.D. on twenty-two candidates. The valedictory address was delivered by Dr. W. W. Keen, Professor of Surgery.

OVARIOTOMY.—On February 8, DR. E. MARTELLI, at the Hospital of Novara, successfully performed ovariotomy upon a woman aged 46, who had previously been operated upon two years ago. Primarily the left, and latterly the right ovary, was the seat of disease.

LAPAROTOMY.—PROF. A. FASSANO recently removed a fibro-sarcoma five pounds in weight from the right ovary without Listerian precaution. On the sixteenth day the woman had recovered.—*Gazetta Med. di Torino*, Feb. 15, 1885.

PLANS FOR THE NEW VIENNA HOSPITAL have already been determined by the Sanitary Committee, and approved by the Government authorities. It will be constructed according to the pavilion system, with all modern improvements and appliances, at an estimated cost of two million gulden.

PROFESSOR HYRTL will complete his half century in medicine during this month, and we learn that the Senate of the University and other learned bodies in Vienna are making arrangements to celebrate the event, and present their congratulations to the venerable anatomist.

PROF. NUSSBAUM.—On the 6th of January, the anniversary of the twenty-fifth year of service of Prof. Nussbaum as University Professor and Chief Physician of the City Hospital, was celebrated in Munich. The Burgomaster and representatives of the civil and military physicians delivered congratulatory addresses, in which due appreciation of Dr. Nussbaum's professional ability and private character was manifested.

DEATH OF PROF. FRERICHS.—A Berlin cablegram dated March 14, records the death of Dr. Frederick Theodore v. Frerichs, the distinguished medical professor and author. He was born at Aurich, in Hanover, March, 14, 1819, and was educated at Göttingen. He occupied a chair at the University of Kiel, then at Breslau, and in 1859 was called to the University of Berlin. During the Franco-German war he was Physician-in-chief of the army. In 1854 he received from the King of Prussia the decoration of the Red Eagle, and the title of Privy Councillor. Dr. Frerichs contributed extensively to Wagner's "Dictionary of Physiology," to Liebig, Poggendorf & Woehler's "Dictionary of Chemistry," was the author of a well-known work on the Diseases of the Liver, and one of the Editors of the *Zeitschrift für Klinische Medicine*. He was a man of fine ability, and his death a serious loss to German Medicine.

CORRIGENDUM.

In the number of THE MEDICAL NEWS for March 14th, page 300, second column, fifteenth line, for "ulceration" *read* "elevation."

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MARCH 10 TO MARCH 16, 1885.

ARMY MEDICAL BOARD to meet in New York City, April 6, 1885. Detail for Board: Lieutenant-Colonel Joseph B. Brown, Surgeon; Major Anthony Heger, Surgeon; Major John H. Janeway, Surgeon.

SURGEON HEGER to be relieved from duty in Department of the East, and Surgeon Janeway to perform duties on the Board in addition to his present duties.—*S. O. 56, A. G. O.*, March 11, 1885.

TAYLOR, BLAIR D., *Captain and Assistant Surgeon.*—Leave of absence extended two months.—*S. O. 54, A. G. O.*, March 9, 1885.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE WEEK ENDING MARCH 14, 1885.

BAILHACHE, P. H., *Surgeon.*—Detailed as President Board of Examiners, March 10, 1885.

PURVIANCE, GEORGE, *Surgeon.*—Detailed as member Board of Examiners, March 10, 1885.

AUSTIN, H. W., *Surgeon.*—Detailed as Recorder Board of Examiners, March 10, 1885.

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the NEWS *should be addressed to No. 1004 Walnut Street, Philadelphia.*

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. XLVI. SATURDAY, MARCH 28, 1885. NO. 13

ORIGINAL LECTURES.

GULSTONIAN LECTURES.

ON MALIGNANT ENDOCARDITIS.

Delivered at the Royal College of Physicians, London, on Tuesday, March 3, 1885.

BY WILLIAM OSLER, M.D.,

PROFESSOR OF CLINICAL MEDICINE AT THE UNIVERSITY OF PENNSYLVANIA, PHILADELPHIA.

LECTURE II.

IN considering the *symptoms* of endocarditis, it is important to bear in mind the manifold conditions under which the disease may develop. A limited number of cases may be grouped together as forming a primary, substantive disease; but in the great majority the affection is either an associated pathological state, or is of the nature of a secondary malady arising in the course of some other disease.

In the primary cases, individuals in perfect health may be attacked, or, more frequently, the disease affects those with chronic valvular endocarditis, with perfect or failing compensation. When the affection occurs after an injury, or in the puerperal state, the cardiac condition may be regarded as part of the general sepsis, and is of the same nature as the pyæmic foci and the inflammation of serous membranes. The existence of the endocarditis in these cases appears to have no special influence on the disease.

When the endocarditis supervenes in the course of some particular affection, as rheumatism or pneumonia, it is usually a secondary process, though, indeed, it may be regarded as directly produced by the causes which have excited the original diseases.

The different modes of onset, and the extraordinary diversity of symptoms which may arise, render it very difficult to present a satisfactory clinical picture. The general symptoms are those of a febrile affection of variable intensity, which may be ushered in, like any acute fever, with rigors, pain in the back, vomiting, headache, etc. Arising in the course of some other disease, there may be simply an intensification of the fever, or a change in its features. The pyrexia is constant, but variable in type and intensity, and more likely than any other symptom to lead to misinterpretation. Prostration of strength, delirium, sweating, and other signs of severe constitutional disturbance are usually present.

Cardiac symptoms may be marked from the outset; pain, palpitation, sense of distress, and murmur; in many instances, there has been old valvular disease, but in a considerable number of cases the heart symptoms remain in the background, hidden by the general condition, and giving no indication; or they may be so slight that they are not even detected on special examination.

The embolic processes give a special prominence to local symptoms which may divert attention from the general malady. Thus delirium, coma, or paralysis may arise from implication of the brain or its membranes; pain in the side and local peritonitis from involvement of the spleen; bloody urine and pain in the back from affection of the kidneys; loss of vision from retinal hemorrhages; and suppuration in various organs or gangrene from the distribution of emboli.

So diverse are the features of malignant endocarditis, that a consideration of the symptoms is greatly facilitated by arranging the cases in groups, according as they display special characters. Dr. Kirkes, in 1852, called the attention of the profession to the occurrence of a typhoid-like condition in acute endocarditis, and he subsequently pointed out the fact that inflammation of the valves might lead to pyæmia. The investigations of Charcot and Vulpian,[1] of Virchow,[2] of Jaccoud,[3] and others, gradually led to the recognition of these two great types of the disease. Of late, still further separation has been made of the cases with features closely resembling ague or intermittent, and also of cases in which the cardiac symptoms are most prominent, and I shall call attention to certain cases in which the symptoms are those of an acute affection of the cerebro-spinal system.

And first let me direct your attention for a few moments to those cases in which the endocarditis is merely a part of the septic or pyæmic state, the result of an external wound, a puerperal process, or an acute necrosis. Somewhat over 18 per cent., of the cases I have analyzed were of this nature, the majority of them occurring in connection with puerperal fever, 11 per cent.; the others in association with various wounds and injuries, or acute necrosis of bone. The puerperal cases appear most frequent after abortions, and the first symptoms usually develop within a week or ten days of delivery, beginning with rigors and fever, and running a course not essentially different from ordinary puerperal septicæmia or pyæmia without endocardial complication. Sometimes the onset of the symptoms may be much delayed, and the patient up and about her duties when the attack comes on. Usually, there is local inflammation of uterus or ligaments; membranous —diphtheritic—endometritis, and phlebitis are common. Occasionally there may be no special affection of the generative organs, as in a very severe case reported by Dr. Moxon,[4] in which there was extensive endocarditis of the right heart, and sloughing patches in the lungs. The woman had been delivered within the month, and the uterus appeared in a state normal for the period. The endocardial lesions are not necessarily ulcerative, but may be vegetative, and occasionally suppurative. It is very evident, from the records, that valves with

[1] Gazette Médicale de Paris, 1862.

[2] Gesammelte Abhandlungen, 1856.

[3] Nouveau Dictionaire de Médecine, etc., art. Endocarditis.

[4] Pathological Society's Transactions, xxi.

sclerotic changes are most often affected. The visceral lesions are always suppurative, but do not appear to be more numerous than in cases of puerperal sepsis without endocarditis. The heart-symptoms may be completely masked by the general condition, and the attention may be directed to them only by the occurrence of embolism. In this connection, it may be remarked that malignant endocarditis may attack pregnant women, and run a rapid course leading to abortion. In two cases of this kind, Litten[1] found no differences in the clinical features or anatomical condition, as regards valves and metastases. In other instances, there may be rigors, sweats, and irregular fever, leading to abortion, without the occurrence of any suppurative foci, as in a case reported by Guyot.[2] Dr. Trueman, of Maccan, New Brunswick, has also sent me notes of a case which developed during pregnancy.

The cases of ulcerative endocarditis in traumatic and operative septicæmia are of a similar nature, but do not appear to occur so frequently as in the puerperal condition. Many of the cases occur after very slight injuries, as paring a hangnail or a corn, a sloughing pile, passage of a sound through a stricture. There are usually suppurative infarcts in the lungs; and even with extensive ulcerative changes in the left heart, the pyæmic foci may be all in connection with the venous system and right heart. This was well illustrated in the case of a man, aged 25, who was admitted to the Montreal General Hospital, May 31st, with a wound of the radial artery. Phlebitis followed, and cellulitis of the arm, rigors, septic pneumonia, thrombosis of the femoral vein, and symptoms of pyæmia. At the necropsy, there were numerous foci in lungs, and a suppurating thrombus in femoral vein. The mitral valve presented, on the ventricular face of anterior segment, a patch, the size of a sixpence, swollen and grayish-white in color, and opposite to it on the auricular face was an ulcer big enough to contain a small pea. There was another also on the wall of left auricle. There were no infarcts in the arterial system. In these cases of puerperal and traumatic septicæmia, the right heart is more frequently affected than in any other group of cases. Thus, of the thirty-seven cases of this kind, there were thirteen in which the tricuspid or pulmonary valves were involved.

In the acute necrosis of bone or acute osteo-myelitis, a secondary endocarditis may develop, and in some instances the clinical features may strongly resemble malignant endocarditis, as was well illustrated in the case of a lad, aged 10, who died after an illness of less than a week's duration, characterized by high fever, rigors, sweats, etc. No local trouble was complained of, and at the post-mortem examination there was ulcerative endocarditis of the right side, and a purulent focus in the septum, and it was only after most careful search that the primary trouble was found in a small spot of acute necrosis of the tibia.

These forms do not strictly come within the province of the physician, but they must be taken into account in any description of malignant endocarditis. The source of the poison is very evident in the external wound; the metritis, etc., and the lesions, are chiefly in the territory of the venous system and right heart.

In the *pyæmic* group, the clinical features are of a decided pyæmic type, and here the source of infection is at the heart, and the metastatic lesions are chiefly in the territory of the arterial system, rendering very applicable the name of *arterial pyæmia* given by Dr. Wilks to this class of cases. We may recognize two types of the pyæmic form: first, the cases in which the symptoms resemble closely those of ordinary pyæmia, with rigors at intervals, sweats, and other signs of septic infection; and, secondly, an important group, in which intermittent pyrexia is a striking feature, occurring in regular paroxysms like ague, with cold, hot, and sweating stages. These forms may develop as primary independent affections, or come on in the course of rheumatic fever, pneumonia, etc. In our Montreal cases, they have not been so marked as the typhoid type. The following case, with illustrative chart, is a fair example of pyæmic symptoms due to endocarditis developing in the course of pneumonia.

M. W., aged 43, well-built man. Admitted under Dr. Ross, February 26, 1880. Served his time in the army; has had syphilis, and has quite recently had syphilitic ulcers; has also been a hard drinker. In October, 1879, he was in hospital with pneumonia, and had severe cerebral symptoms. On February 23d, severe rigor, followed by fever, cough, and pain in the side. On admission, 26th, signs of consolidation at left base. On 28th, was delirious. On the 1st, the crisis seemed to take place; temperature fell to 98°, remained low for three days, and he seemed to be doing very well At 1 P.M. on the 4th, he had a severe chill, with vomiting, and followed by sweating. On the 5th, was delirious; had another severe chill at 2 P.M., in which the temperature rose to nearly 104°. Had five stools; no indications pointing to heart. On the 6th, morning temperature normal, patient very prostrate, sweats a great deal, and there is low wandering delirium. From the 6th to the 9th, the temperature rose a degree each evening, reaching 105.3°, its highest point. Pulse over 120, and feeble. From this time until the 14th, he gradually sank, remaining unconscious. The lung-symptoms did not extend, but rather improved. The post-mortem examination revealed extensive ulcerative vegetations on aortic valves, purulent meningitis, and resolving pneumonia of left base.

The attack may be ushered in with a single rigor, or more often a series of chills, which from the outset may constitute a marked feature, and, with the sweating, prostration, and diarrhœa, give a septic character to the case. A light jaundice may develop, and still further intensify the resemblance. Sometimes the case may run on for a couple of weeks with marked typhoid symptoms, and then pyæmic features develop—rigors, sweats, etc.

But by far the most remarkable cases of the pyæmic group are those which present a marked intermittent type of pyrexia, simulating a quotidian or tertian ague. They may occur without any signs or indications of heart disease, or the symptoms may develop in individuals the subjects of chronic valvulitis. The cases are not nearly so frequent as those of the typhoid type; but they have been specially studied by Drs. Wilks,

[1] Charité Annalen, iii., Berlin.

[2] Bulletin de Soc. d'Anatomie, 1879.

Bristowe, and Coupland in this country, Lancereaux in France, Leyden and others in Germany. The paroxysms may have the absolutely typical features of intermittent; the chills, hot stage, and sweating succeeding each other with regularity; and in the intervals there may be an entire absence of the fever. The quotidian type is the most common; the tertian has occasionally been described; and in rare instances two paroxysms have recurred within the twenty-four hours. The cases may be much prolonged, even for three or four months. One of the first references I find to cases of this kind is in a foot-note to one of Dr. Ormerod's Gulstonian Lectures,[1] in which a case of Dr. Bond, of Cambridge, is narrated—an instance of chronic valvular disease, with intermittent fever and diarrhœa, two paroxysms occurring in the day. The case lasted four months. In a remarkable case (Dr. Ray) described by Dr. Wilks,[2] during a six or seven weeks' illness, rigors recurred with such regularity that a tertian ague was suspected for a time, although the patient was known to be the subject of heart disease. In some instances, the existence of ague previously has rendered the condition much more puzzling. In several of Lancereaux's cases[3] the patients had had intermittent fever a short time before; so also with one of Leyden's cases.[4] But the most extraordinary case of the kind is recorded by Dr. Bristowe.[5] A patient had ague in October, chills once or twice a day; ill for six weeks; and, after an interval of two or three weeks, they recurred in the second week of December, and continued until December 23d. She was well for a few days, and then the attacks recurred after sleeping in a cold bed, and persisted until her admission to hospital on February 12th. For the four weeks previous to entrance, the attacks came every twelve hours regularly. A murmur was noticed; but the history of ague was so clear, and the attacks so characteristic, that a suspicion of malignant endocarditis was at first not entertained. It was only after the failure of quinine and a variation in the character of the paroxysms, that a diagnosis was reached.[6] In Dr. Coupland's[7] cases the intermittent pyrexia was also well marked. In none of our Montreal cases was the aguish type very pronounced, though in one or two cases there were regularly recurring paroxysms of chills, fever, and sweating; but the conditions under which the attacks developed rendered the clinical features more like ordinary pyæmia. The majority of these cases appear to arise independently of other affections, and occur among what I have referred to as the primary class of cases, though, as already mentioned, some develop in chronic valvular disease, and others appear associated in some way with ague.

The *typhoid* type is by far the most common, and the majority of the cases present features which come under this heading. The disease may set in with a single rigor or a series of chills, most frequently the former, often a period of *malaise* or ill health has preceded the attack, and in very many instances the symptoms develop in the course of some fever. The characters of this form are irregular temperature, early prostration, and involvement of the nervous system, delirium, somnolence and coma, dry tongue, relaxed bowels, sweats, petechial and other rashes, and occasionally parotitis. Perhaps the majority of cases are mistaken for typhoid, as the heart symptoms may never be prominent, or even when sought for not found.

The following cases illustrate the chief features of this form:

Ann O., aged 36, large, well-nourished woman, admitted under Dr. Wilkins, June 5, 1881. She had been a healthy woman. Dr. Blackader saw her on the 2d, when she complained of severe pains in the back, loins, and hips, which were relieved by poultices. Pulse rapid, tongue furred, no diarrhœa. Admitted supposed to be suffering from typhoid fever. No reliable history, family or personal, could be obtained, but she had been out of sorts for four or five days previous to the onset of the attack. On admission, temperature 104°; pulse 110, respiration 52; no eruption; lungs normal; no heart-murmur; no albumen in urine. On the 6th she passed a restless night. Temperature 104°; pulse 120, dicrotic; abdomen distended; two stools. Passed eighteen ounces of urine, slightly bloody, which may have been from the menses, which began to-day. On 7th, morning temperature 103.2°; pulse weak, 120; respiration 54, shallow; loud sonorous *râles* over chest; bowels and bladder emptied involuntarily; stools frequent, high colored; patient cannot be roused. The legs and general surface seem tender, which causes her to cry out when moved. Urine drawn off by catheter contains much blood, fifty per cent. by volume of albumen, and many granular casts. Pupils unequal; head drawn to the right. Some rigidity of muscles of arms, most marked on the left; increasing coma, and death at 3.30 P. M. of the 7th, the sixth day of her serious illness. At necropsy no hypertrophy of heart; mitral valves a trifle thick, with small superficial losses of substance on both curtains. Aortic valves normal; infarcts in spleen. Numerous small hemorrhagic emboli in kidneys and throughout the intestines. Six or eight suppurating infarcts in brain, chiefly near longitudinal fissure and on median surfaces.

This case is a good example of the primary malignant endocarditis occurring in a healthy individual, and running a rapid course, with symptoms of a typhoid character. The diarrhœa was not profuse, though the intestinal lesions were well marked.

In the following instance, occurring in connection with pneumonia, the profuse diarrhœa and severe nervous prostration were very suggestive of typhoid fever.

J. H., aged 40, drayman, a large, well-built man, was admitted, May 13th, with pneumonia. He had been a pretty healthy man, though he had had two previous attacks of inflammation of the lungs. Had been in the habit of taking stimulants. Present illness began on the 11th, with the usual signs of pneumonia, for which he consulted Dr. Blackader. On admission, was delirious, temperature 105°, respiration 60, pulse 110; consolidation of lower two-thirds of right lung, with the usual physical signs of hepatization. On the 6th day,

[1] Medical Gazette, 1851.

[2] British Medical Journal, 1868.

[3] Gazette de Médecine, 1862; Archives Générale, 1873.

[4] Zeitschrift f. klin. Med., Bd. iv., Berlin.

[5] British Medical Journal, 1881.

[6] Dr. Bristowe mentioned to me, in speaking of this case, that he now regarded it as one of ulcerative endocarditis from the outset. The woman had not had ague before, and the place of her residence was not malarious.

[7] Med. Times and Gazette, 1882, vol. i.

the delirium was less marked and the temperature had fallen to 101.5°. On the 9th day, the fever was 103°, and the condition of lung remained about the same. On the 12th day, I saw him with Dr. Molson. The dulness appeared to be diminishing at the right base; I could detect no murmur at either apex or base of heart. The condition of the patient resembled closely other cases of pneumonia in which ulcerative endocarditis had developed, and I suggested the possibility in this instance. Tongue was furred, no abdominal distention; no spots; diarrhœa had come on in the past few days; stools thin, yellowish in color. Patient was dull and heavy, not actively delirious. On the 18th day, temperature rose to 104.5°, and for the next four days kept about that height. On the 20th day, diarrhœa, which had been checked, began again. On 23d day (June 1st), temperature 104.5°, pulse 96, respiration 30. Dulness diminished at right base, still evident in scapular region at lower part; moist *râles* over back of lung; rhonchi, sibilant, and sonorous, heard in front. A single large dose (30 grains) of quinine, at 4 P.M., did not affect the temperature, which at 10 A.M. was 105.5°. On 26th day, much the same, temperature was kept about 104°; two or three loose stools each day, low delirium, restless at night. For the next three days the fever was not quite so high, the diarrhœa ceased, and he became somewhat rational. Still deficient resonance in right lung behind. Respirations kept about 30, and pulse under 100. On the night of June 8th, patient very restless, required constant watching; temperature 105°; pulse more rapid, 130. On the 10th, patient more drowsy, pulse feeble, 140; large moist *râles* heard over both lungs. In the evening he had a rigor; temperature rose to 105°, and death took place on the morning of the 11th, just a month from the onset of the disease. Petechiæ had appeared on the skin during the last few days of his life.

Necropsy, five hours after death. Body not emaciated, petechiæ on skin in various regions. In abdomen, patches of dark extravasation noticed upon coils of intestines, both large and small. In thorax, right lung intimately adherent.

Heart. Subpericardial ecchymoses. Numerous petechial spots beneath lining membrane of the cavities; some of them are as large as split peas, and on section present a grayish centre, as if they were small infarcts. The mitral segments were natural looking on the ventricular surface, but on separating the edges, large masses of vegetations were seen blocking the orifice. They were attached to the auricular faces, about 2 to 3 millimetres from the edge; that in the anterior segment was about 2 centimetres in extent, and projected 12 millimetres. It was roughened on the surface. The growth on the posterior segment was smaller, irregularly divided into two bulbous portions, the surfaces of which were smooth. The aortic orifice was blocked with a clot; right anterior valve presented an enormous mass of vegetation, which occupied the entire curtain, except the edge, and infiltrated the whole thickness, appearing in the sinus as small nodular masses. Two perforations existed between the outgrowths, each about the size of a crow-quill. The posterior segment presented a flattened vegetation, which encrusted the centre of the valve, and extended to the corpus Arantii. All of these masses had the same appearance; color grayish-yellow, except where coated with adherent blood-clot; those on anterior mitral segment and on posterior aortic were roughened, and the granular substance exposed; three others presented smooth surfaces, as if covered by a thin membrane. They were soft, on section granular, uniform throughout, and the consistence of pith. Coronary arteries free.

Lungs. Right closely bound to chest-wall by old fibrous adhesions. Posterior part of organ heavy, but crepitant, except at upper part of lower lobe, which, with a band about 3 centimetres in breadth, of the lower part of the upper, and part of the middle lobes, were firm, airless, and granular on section. Color liver-red, interspersed with small opaque areas, the plugs in the air-cells undergoing fatty change. Left lung healthy.

Spleen weighed 185 grammes, pulp soft. No infarctions.

Kidneys of average size; numerous small infarcts, chiefly in cortex; small hemorrhagic areas with gray centres.

Intestines. The deeply ecchymotic patches seen externally corresponded with small infarcts situated in the submucosa, and surrounded by a zone of deeply hemorrhagic tissue, above which the gray pale glandular layer could be distinctly seen. The infarct itself was about the size of a split pea, a little elevated, on section deep red or grayish-red, not in any instance purulent, and surrounded by a zone of extravasation from 1 to 3 centimetres in diameter. They were most abundant in the ileum, about twenty in number. Peyer's glands not swollen.

Liver pale, swollen, and soft.

Brain. Vessels of pia mater full, parts at base normal. Thick, purulent lymph beneath arachnoid, covering central part of fissures of Sylvius on both sides, over both frontal lobes at anterior part, over the left intraparietal fissure, and on upper part of cerebellum, close to great transverse fissure. A good deal of serosity beneath the membranes. No infarcts in substance of brain.

In some instances, the clinical features are mixed; typhoid and pyæmic characters may alternate, as in the following case:

J. B., aged 38, admitted January 7, 1880, has been a healthy man. Ten years ago, had a severe attack of pneumonia. On the night of January 4th, he felt uneasy, and did not rest well; got feverish, and in the morning had pain in the side and cough. No rigor. Symptoms continued, and he came to hospital on 7th. On admission, temperature was 103°, pulse 128, and respirations 40. Signs of pneumonia in right lung, lower three-fourths. Characteristic expectoration. During the first week in hospital, nervous symptoms appeared; he became delirious, and passed urine and feces in bed; tongue dry; and on the 9th and 10th, there was troublesome vomiting. The temperature was irregular, ranging from 100° to 104°; the evening record usually high, but twice it was lower than the morning. Pulse 120 to 148; respirations 32 to 50. During the second week, the intensity of the symptoms abated; the temperature kept lower, not once reaching 101°. The nervous prostration continued, with tremor of whole body, and the discharges were passed involuntarily. Tongue very dry. A very disgusting fetor emanated from the body. He lay like a patient in the third week

of severe typhoid fever; took food and stimulants well. On the 19th, a painful swelling appeared in left parotid region, and he began to have chills, and sweated a great deal each day. No objective indications of heart trouble. The lung cleared very much in the third week, but the prostration continued. During the fourth week, the swelling of the parotid increased, and on February 1st an abscess was opened in this region. On 30th, there were severe chills, with blueness of face and fingertips. Much sweating, of a profuse drenching character. Became brighter after the abscess was opened, and the nervous symptoms were less marked. Temperature ranged from 98° to 103°, rising with the chills. In the fifth week, he remained in this state, with but little change, occasional chills and profuse sweats, the picture being more like severe pyæmia. In the sixth week, the prostration increased, and he lay in a heavy unconscious state. No chills, but most profuse sweats. On February 13th and 14th, the temperature rose very high, reaching 105°, and death took place on the 15th, after an illness of forty-two days.

The necropsy revealed extensive mitral endocarditis, as the only special lesion. The base of the right lung was a little firmer than the left, but not granular on section. Only one infarct found, which was in upper part of spleen. Intestines healthy; no meningitis. The parotid abscess had almost healed.

Cardiac Group.—Under this heading may be arranged, as suggested by Dr. Bramwell,[1] those cases in which patients, the subjects of chronic valve-disease, are attacked with febrile symptoms and evidences of a recent endocarditis engrafted upon the old process. I have already remarked on the great frequency with which ulcerative changes are found in connection with sclerotic endocarditis. Many of such cases present features of the pyæmic, typhoid, or cerebral types, and may be of the most acute character; but, in others, the process appears much less intense, and the course more chronic. In a considerable series of cases, the history is somewhat as follows: The patient has, say, aortic valve-disease, and is under treatment for failing compensation, when he begins to have slight irregular fever, an evening exacerbation of two or three degrees, some increase in cardiac pain, and a sense of restlessness and distress. Embolic phenomena may develop; a sudden hemiplegia; pain in region of spleen, and signs of enlargement of the organ; or there is pain in the back, with bloody urine. In other instances, peripheral embolism may take place, with gangrene of foot or hand. There may be hebetude or a low delirium. Instances such as these are extremely common; and while, in some, the process may be very intense, in others it is essentially chronic, and may last for weeks or months, so that the term malignant seems not at all applicable to them; still, in a large series of cases, all gradations can be seen between the most severe and the milder forms. Dr. Green[2] referred to a case which lasted six months, and to another in which, during eighteen months, there were attacks of irregular fever. I have known the febrile symptoms subside for weeks, to recur again with increased severity; and there are cases which render it probable that the process may subside entirely. The ulcerative destruction, in these cases, may be most extensive; and I have seen the aortic ring with scarcely a trace of valve-substance left. The process in the chronic cases is also mycotic, and it is to be carefully distinguished from the atheromatous changes. In very many instances, there is no history of rheumatic fever or other constitutional disorder; but the endocarditis appears to attack the sclerotic valves as a primary process, and a very considerable number of the most typical cases are of this kind. A good example was the following case, in which the disease attacked deformed and hardened valves, and the clinical symptoms were prolonged for nearly three months: H. M., aged 38, admitted September 8th, under Dr. Ross. Good family and personal history; has always enjoyed excellent health. A month ago had chilly feelings, fever, and sweating, with vomiting. Kept about until ten days before admission, when he took to bed, with pains at heart, and fever. On admission, marked aortic incompetency; temperature 100°; seemed dull and heavy. On 15th, there was iliac tenderness, and some diarrhœa. For the next two weeks, remained in same state, temperature rising at times to 103°. During the first week of October, the prostration increased, and there was slight delirium at night; temperature not higher than 102°. On the 14th, there was an eruption of petechiæ. From this time the temperature kept lower—100° to 101°—the delirium and prostration increased, and death took place on the 23d. Two of the aortic cusps had fused, and there were old sclerotic changes; there were recent soft grayish vegetations; spleen presented six or eight infarcts, one suppurative. These are the cases of ulcerative endocarditis which present fewest difficulties in diagnosis. The existence of the chronic heart disease excites attention; and even if compensation has previously been perfect, the ulcerative process may be the very cause of disturbing the balance and producing marked symptoms. In my experience, the existence of fever is invariable when the ulcerative processes are due to micrococci, whereas most extensive destructive changes may occur in atheromatous disease without any elevation of temperature. It may be possible that the granular detritus discharged from atheromatous foci on the valves, or on the aorta, may have irritating properties, yet, in two instances, I have met with most extensive atheromatous ulcers on valves and aorta, from which large quantities of material must have been discharged, and the patients were not febrile. Dr. Sansom,[1] however, has referred to a case of ulcerative endocarditis in which there was no elevation of temperature throughout.

The Cerebral Group.—A considerable number of cases of malignant endocarditis come under observation, in hospital practice, perhaps, for the first time, with symptoms of cerebral, or even cerebro-spinal, trouble. In three of the Montreal cases, the patients were brought to hospital unconscious, and presented the appearance of profound cerebral affection. One of the first cases I saw was of this kind. The patient, a woman, aged 29, was admitted on October 22d in an unconscious state, and no history could be obtained. On the 24th, she became partially conscious, and complained of great pain in the head and back of the neck. Symptoms of

[1] Diseases of the Heart, Edinburgh, 1884.

[2] Lancet, 1884, vol. i.

[1] The Lancet, 1884, vol. i.

slight apex-pneumonia were detected. Temperature up to 104°. On the 25th, she passed urine and feces involuntarily. There was strabismus of right eye, and commencing ulceration of left cornea. Death took place on the 26th. The symptoms were those of an acute meningitis. The post-mortem examination revealed apex-pneumonia, a patch of endocarditis on mitral, and suppurative meningitis, involving chiefly the cortex. Another case, almost the counterpart, was admitted last year, under Dr. Molson, in an unconscious state, and died eighteen hours after admission, when the necropsy revealed apex-pneumonia, extensive endocarditis, and suppurative meningitis. There may be early unconsciousness or delirium without any meningeal implication, as in a case of primary endocarditis admitted June 5, 1881. The patient may be wildly delirious or unconscious at the first visit of the medical man, as in a case narrated by Eberth.[1] Very many of these cases die within two or three days of admission, and the question of diagnosis has usually to be suspended; indeed, in looking over the records of eleven instances in which these cerebral symptoms were early, they appear to run a more rapid course than other cases.

In two remarkable cases, there was cerebro-spinal meningitis. Homolle[2] records a case of a lad who was admitted with symptoms at first like those of typhoid, and then of a marked cerebro-spinal character. There was also a pulmonary affection and endocarditis. Patient lived five days. At the necropsy, there was suppurative meningitis of brain and cord, pneumonia of one lung, and extensive ulcerative endocarditis, with old sclerotic changes.

A still more remarkable case is reported by Heineman.[3] Boy, aged 14, admitted November 19th. For two days previous he had suffered with pains in back and legs, chills, fever, loss of appetite, vomiting, and constipation; was rational on admission; tongue coated; temperature 105.2°; condition of heart and lungs negative.

November 20th: Temperature, morning, 103.4°; evening, 105.6°. Feces and urine passed involuntarily.

November 21st: A purpuric eruption noticed on the chest, then on the face, and afterwards on legs and arms. Temperature 104.8°; pulse very feeble; delirium; hyperæsthesia along the spine; no opisthotonos; pericarditis suspected. At 11 P.M. of this day, a second crop of purpuric spots came out; temperature 106°; convulsive movements. 22d, 3 A.M., second convulsive seizure, and death. At necropsy, there was purulent exudation on brain, and the meninges of cord were congested, opaque, and inflamed. Congestion of lower lobe of lungs. Recent vegetations on mitral, and near apex on anterior wall of left ventricle, a small cavity, indicative of probable abscess and destruction of tissue. Purulent serum in pericardium; kidneys presented embolic abscesses.

Certain clinical features may be specially referred to in a few words. The fever, as will have been gathered from the previous statements, is of a very variable character. Irregularity is the prominent feature; periods of low may alternate with periods of high temperature, or a remittent may become an intermittent. A remittent type is most frequently met with, but the remissions do not occur with any regularity. Occasionally there may be a continuous high fever, the thermometer not registering below 103° for a week at a time. The pyæmic and aguish types have been sufficiently noted.

The occurrence of a rash has been described by many observers, and, in some instances, has led to errors of diagnosis. The most common form is the hemorrhagic, in the form of small petechiæ, distributed over the trunk, particularly the abdomen, less often in the face and extremities. They may be most abundant over the whole body, and at times are large and present small white centres. When severe nervous symptoms are also present, the resemblance of the cases to cerebro-spinal meningitis, or typhus, may be very close. In one instance, the case was thought to be hemorrhagic variola (Duget and Hayem[1]). An erythematous rash has also been observed.

In a case of Dr. Cayley's,[3] there was a mottled red rash on the skin. Colson[3] describes a case in which the rash was erythematous, and in spots distinctly papular.

The mental symptoms may be of a very varied character. By far the most frequent conditions are low delirium, and dull, semi-conscious, apathetic state. There may be at the outset active delirium, or even maniacal outbursts. In a case of Dr. Habershon's,[4] there was a condition described as mental eccentricity. When there is extensive meningitis, there is usually a condition of deep coma.

Sweating is a very frequent symptom, and is worthy of special notice, from the peculiarly drenching character, which is, as Dr. Henry Thompson remarks,[5] second only to that of ague, and usually far beyond the average mark of phthisis or pyæmia.

The diarrhœa is not necessarily dependent on any recognizable lesion, and may not be very marked, even when the infarcts on the mucosa are most abundant. As noted in several of the cases, it may be profuse, and still further add to the resemblance which some of the cases bear to typhoid fever.

Jaundice may be present, but appears to be a rare symptom. Cases, some of which were mistaken for acute yellow atrophy, are reported by Schnitzler,[6] Gubler,[7] Luys,[8] and Mattice and Chalvet.[9]

The heart symptoms may early attract attention, from the complaints of pain and palpitation; but, as a rule, they are latent, and unless sought for are likely to be overlooked. In those cases with chronic valve disease, there is usually no difficulty, but where the affection sets in with marked constitutional symptoms, the local trouble is very apt not to attract attention. Even with extensive vegetations there may be no murmur present, or it may be variable. There are many instances on record, by careful observers, in which the examination of the heart was negative.

[1] Virchow's Archiv, lvii.
[2] Bulletin de Soc. d'Anatomie, 1873.
[3] New York Medical Record, ii., 1881.

[1] C. R., Soc. de Biologie, 1865.
[2] The Lancet, 1881, i.
[3] Bull. de Soc. d'Anatomic, 1876.
[4] Guy's Hospital Reports, vol. xvii.
[5] Lancet, 1880.
[6] Wiener med. Presse, 1865.
[7] Gazette Médicale, 1862.
[8] Ibid., 1864.
[9] Ibid., 1862.

The *course* of the disease presents many variations, well illustrated by the records I have given; very acute cases may run their course within the week, as in the patient Ann O., already referred to, while in others the duration may be even two or three months. Except in certain cases in which the disease attacks patients the subjects of chronic valvulitis, the course is rarely prolonged beyond four or five weeks. Some cases of the pyæmic group, particularly those with intermittent pyrexia, appear very prolonged, even two or three months. The most rapidly fatal case is described by Eberth,[1] in which a man, who had enjoyed previous good health, was attacked on the evening of the 25th, with rigors, followed by high fever and rapid unconsciousness. The temperature that night, when seen by a physician, was 41° C., and the case seemed like one of typhus with meningitis. On the 27th, he was removed to the hospital, where he died at 5 P.M. Temperature was 42.4° C. There were extensive ulcers in the aortic valves, and suppurative infarcts in the brain. The duration in this case was scarcely two days. In a considerable number of instances, the disease terminates within a week or ten days.

ORIGINAL ARTICLES.

DISINFECTANTS.

PRELIMINARY REPORTS OF THE COMMITTEE ON DISINFECTANTS OF THE AMERICAN PUBLIC HEALTH ASSOCIATION.

VII.

SULPHUR DIOXIDE.

BY GEORGE M. STERNBERG, M.D.,
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Vallin, to whom we are indebted for the best practical "treatise upon disinfectants and disinfection"[2] which has yet been published, says: "Sulphurous acid, obtained by the combustion of sulphur in free air, occupies almost the first place among the veritable disinfectants." (*Op. cit.*, p. 243.)

This is the deliberate judgment of one who had carefully considered the experimental evidence accessible at the time this opinion was formulated (1882).

The use of sulphurous acid gas as a disinfecting agent has come down to us from remote antiquity, and it is safe to say that no gaseous disinfectant known is more extensively used, or has a higher place in the confidence of leading sanitary authorities at the present day. So well established is the belief that the fumes of burning sulphur will destroy the infection of smallpox, scarlet fever, yellow fever, etc., that it is probable that many believers in the germ theory of disease would be disposed to abandon this belief rather than to give up their faith in the disinfecting power of sulphurous acid gas, in case the experimental evidence relating to the germicide power of this agent should be in conflict with the results of their experience.

It is the object of the present paper to present the experimental evidence for the consideration of sanitarians, and, as the subject is one of great practical importance, the paper will necessarily be one of considerable length.

Before the modern methods of isolating and cultivating pathogenic microörganisms had been perfected, various efforts had been made to determine by experiment the disinfecting power of sulphurous acid gas. One of the first of these experiments upon record is that which the Russian physicians are said to have made at the time of the pest in Moscow, in 1771. According to Dr. A. Wolff, ten cloaks (*pelisses*) which had been worn by soldiers seized with the plague, during their sickness, were exposed to fumigation (*une forte fumigation*) with sulphur and saltpetre. Ten criminals, condemned to death, were then required to wear these garments, and not one of them contracted the malady. In the absence of any control-experiment in which similar garments not disinfected were proved to communicate the disease, we cannot admit that disinfection was accomplished in this instance, as claimed by the Russian physicians, by the fumigation resorted to. The same criticism may be made with reference to most of the evidence relied upon at the present day, which is supposed to establish the value of the agent in question. It is negative in character, and we have no control-experiments. Moreover, accompanying or following the fumigation, other measures are commonly adopted, such as free ventilation and cleansing of apartments, exposure of clothing and bedding to an abundance of fresh air, etc. As in clinical experiments a fictitious value is often assigned to remedies by reason of the failure of the experimenter to recognize the influence of the *vis medicatrix naturæ*, so there is reason to believe a "disinfectant" may often establish a temporary reputation, at least, upon the real virtues of an abundance of fresh air, together with a free use of hot water and scrubbing brushes, with perhaps a judicious use of the whitewash brush in addition. These remarks are made not to throw discredit in advance upon the agent under consideration, but with a view to showing that a careful survey of the experimental evidence is necessary, and that a spirit of scientific conservatism is required when the attempt is made to estimate the value of negative evidence in a case of this kind.

In vaccine virus we have an infectious material which seems especially well adapted as a test of disinfecting power, and the inference seems justified that an agent which will destroy the specific virulence of this material may also be relied upon for the destruction of the smallpox infection. The writer applied this test in a series of experiments made in 1880 and 1881, and published in the *Bulletin* of the National Board of Health. The results obtained have been summarized by Vallin, and, as his work is before me, I quote from it as follows:

"Dougall and Baxter have shown the neutralizing power of sulphurous acid upon different kinds of inoculable virus. Both exposed for ten minutes, in an atmosphere saturated with sulphurous fumes, ivory points charged with dry vaccine virus. At the end of this time the neutralized virus was inoculated by three punctures

[1] Virchow's Archiv, lvii.

[2] E. Vallin, Médecin Principal de 1re Classe de l'Armée, Professeur d'Hygiène a l'école de Méd. Militaire du Val-de-Grace, etc. Traité des Désinfectants et de la Désinfection, Paris, 1882.

in the arm of a non-vaccinated infant; while in the other arm, at the same time, three punctures were made with ivory points charged with the same virus, but not exposed to sulphurous acid. The last-mentioned punctures were all followed by perfectly developed vesicles, the punctures upon the other arm gave no result. Unfortunately the quantity of the acid, or of sulphur burned, is not mentioned; this time, by exception, Baxter leaves us in doubt.

"Dr. Sternberg, surgeon in the United States Army, has taken up these experiments in an ingenious manner and with greater precision. This author burned a determined quantity of sulphur in a wooden box having a capacity of ten litres. He submitted to the vapors thus produced liquid vaccine virus, placed in a watch-glass, for a period of twelve hours. The following day unvaccinated infants were inoculated in one arm with the disinfected virus, and in the other with a portion of the same virus not exposed to the disinfectant.

"Liquid virus thus exposed for twelve hours to the action of the fumes from 3 centigrammes of sulphur burned in the air-chamber—that is, 24 cubic centimetres of gas to 10 litres of air, or a little more than two parts in a thousand—produced but a single vesicle, while the non-disinfected virus in the other arm gave a successful result in every instance. Upon doubling the amount of sulphur—that is, 6 centigrammes to 10 litres, or 6 grammes per cubic metre, or 5 volumes of sulphurous acid to 1000 volumes of air—and reducing the time of exposure to four hours, the vaccine still remained inactive after exposure.

"It suffices, then, to burn 5 grammes of sulphur in a cubic metre of air, in order to neutralize *liquid* vaccine, but this vaccine coagulates almost immediately upon contact with sulphurous acid gas; and this contributes, perhaps, to destroy, or to modify, its inoculability. We shall see, further on, that experiment made in spaces of such small dimensions may lead to grave errors.

"In order to disinfect dry vaccine, Sternberg found that a considerably larger quantity of sulphur was required, viz., 16 grammes per cubic metre, which corresponds with the classical proportion of one volume of sulphurous acid gas to 100 volumes of air; in this regard the experiments of Sternberg confirm those which have been obtained by many other authors."

Baxter has also tested the power of an aqueous solution of sulphur dioxide to disinfect the virus of glanders, and of an infectious form of septicæmia—induced—in guinea-pigs. Four parts of SO_2 by weight, added to 1000 parts of the diluted virus of glanders, neutralized its infective properties, as determined by inoculation experiments. The septic virus was destroyed by 3 parts by weight in 100, while 6 in 1000 failed. The time of exposure to the disinfectant in these experiments is said to have been from thirty minutes to three hours; but this is considered by Baxter to be a matter of secondary importance, and, according to him, disinfection is complete at the end of five minutes, when the virus has been intimately mixed with the disinfecting solution.

The wide limits (3 : 100 and 6 : 1000) between success and failure in these experiments of Baxter, and an evident want of precision in the conditions, especially as to time, induced Vallin, from whom we have quoted the above results, to undertake additional experiments with the virus of glanders. He says:

"I had, in January, 1881, an opportunity to repeat these experiments. A patient in the service of our colleague, M. Gaujat, at Val de Grace, was attacked with glanders—*abcès farcineux multiples*—and furnished an inoculable pus, with which Dr. Kiener produced in several animals, guinea-pigs, cats, etc., the characteristic lesions of glanders. A small quantity of this pus, obtained directly from the patient, and placed in a watch-glass, was exposed for twelve hours in a wooden box having a capacity of exactly 100 litres. Two grammes of sulphur were burned in this box, an amount which corresponds with 20 grammes per cubic metre. The following day a guinea-pig was inoculated with the disinfected virus. At the end of three months this animal remained in perfect health. Another guinea-pig, inoculated the same day with a second portion of the same virus preserved between two watch-glasses, and not disinfected, died at the end of two months with the characteristic lesions of glanders."

Additional experiments were made with the same virulent pus dried in the open air upon little squares of flannel. Inoculation with this material failed after exposure to sulphur dioxide generated by burning sulphur in the proportion of 15 grammes per cubic metre. But inoculation with the desiccated virus not exposed to a disinfecting agent also failed, and Vallin remarks that desiccation alone had perhaps sufficed to destroy the virus, as in the experiments of Galtier. Experiments were also made with pus obtained from a tuberculous abscess in a case of Pott's disease. This material was divided into two portions and placed in watch-glasses. One portion was subjected for twelve hours to the action of sulphur dioxide generated by burning sulphur in the proportion of 20 grammes per cubic metre. This pus, injected subcutaneously into a guinea-pig, produced no result. At the end of four months the animal remained in good health. The non-disinfected pus injected into another guinea-pig caused its death on the forty-eighth day. Its liver, spleen, lungs, and peritoneum, were filled with tubercle granules. Other experiments were made with pus obtained from two chancres "of doubtful nature." Inoculation with this material, after exposure to SO_2 (15 grammes of sulphur per cubic metre of space), gave no result, while the non-disinfected pus produced "characteristic pustules."

In the experiments thus far recorded the disinfecting power of the agent under consideration is fully established for certain kinds of material, and especially for vaccine virus. In my own experiments upon this material the results were extremely definite, and the conditions observed were such as to render them unimpeachable. Experiments upon original virus from various sources are especially valuable from a practical point of view, inasmuch as the results obtained are evidently reliable guides with reference to the destruction of infective virulence in the several kinds of material experimented upon, and this without regard to any theory as to the nature of the morbific agent. We know, however, that in several infectious diseases, at least, this agent is a living organism or germ. It is, therefore, a matter of importance to determine the exact germicide power of this and other agents which have been proved to be useful disinfectants, and numerous experiments have been made with this object in view. If the germ theory of disease is correct, as applied to all infectious diseases, there should be a correspondence between the results obtained in experiments with original virus and those made upon pure cultures of the

pathogenic organism to which such virus owes its infecting power. This is an interesting question in connection with the agent under consideration, inasmuch as Wernitz has shown that sulphurous acid promptly neutralizes the action of non-living ferments in comparatively small amounts, and there is therefore ground for the supposition that the specific disease poisons destroyed by this agent in the disinfection experiments above recorded were of this nature.

According to Wernitz,[1] the action of pepsine, of ptyaline, of invertine, and of diastase, is prevented by the presence of an aqueous solution of SO_2 of 1 : 1317 to 1 : 8600 (by weight); while the action of myrosine and of emulsine is neutralized by 1 : 21,000.

Wernich, of Breslau, experimenting in the Pathological Institute of Berlin, 1877, saturated strips of woollen or cotton goods with putrid liquids, and exposed them under a bell-jar containing a definite proportion of sulphurous acid gas. Then, with proper precautions, these strips were introduced into tubes containing Pasteur's culture solution, thoroughly sterilized. The development of bacteria in this fluid was taken as evidence that disinfection was not complete. The results obtained are summarized by Vallin[2] as follows:

When the strips of material were suspended for several hours under a bell-jar containing 3.3 volumes of sulphurous acid per 100 volumes of air, they were not disinfected. When the proportion of gas was increased to 7 per cent., or even to 4 per cent., the time of exposure being six hours, the strips of goods no longer fertilized culture liquids.

Schotte and Gärtner,[3] in 1880, experimented also upon the bacteria of putrefaction. In a chamber having a capacity of 40 cubic metres they placed, at various levels, shallow dishes containing culture liquids, into which putrefactive bacteria were introduced. Sulphur was burned in earthen vessels, placed about four feet above the level of the floor. When the amount burned was in the proportion of 15 grammes per cubic metre of space—an amount which gives one volume of SO_2 to 100 volumes of air—it was found that, at the end of six hours, the gas had escaped to such an extent that it was possible to enter and remain in the room, although during the entire time the doors and windows had been carefully closed. The result of the experiment was that the culture liquids exposed in the upper part of the chamber remained clear, while those placed upon the floor broke down at the end of twenty-four to thirty-six hours. When the amount of sulphur burned was increased to 28 grammes per cubic metre (about two volumes per cent. of SO_2), disinfection was complete. When the culture fluids were placed upon the shelves of a cupboard, "half-closed," and situated in the corner of the chamber, disinfection was only obtained by burning 92 grammes of sulphur per cubic metre of space.

[1] I. Wernitz, Ueber die Wirkung der antiseptica auf ungeformte Fermente, Dorpat, 1880.
[2] Op. cit., p. 254.
[3] Viertelj. f. Oeff. Gesund., 1880, l. xii. pp. 337–376.

We remark that the test of disinfection was not satisfactory in these experiments. A certain amount of SO_2 was, no doubt, absorbed by the exposed culture liquids, and these, in successful experiments, failed to break down, because of the antiseptic or restraining influence of this agent. But, to prove that the germs of putrefaction in these culture liquids were killed, it would have been necessary to inoculate fresh cultures with a small amount of this material which had been exposed to the action of a disinfectant.

Other experiments were made by the authors named, which we shall quote in the language of Vallin:[1]

"Strips of very thick woollen goods were soaked in culture liquids containing bacteria. These were dried, a proceeding which did not destroy the vitality of the bacteria, as proved by culture experiments. These strips were suspended from a cord stretched across the middle of the chamber at a level of about five feet above the floor. Half of the strips were left dry; the other half, after having been dried, were again moistened, so that they might be exposed in a moist condition to the sulphurous vapors. Our authors arrived at the following unexpected results: Even after having been exposed to the action of sulphur dioxide, produced by the combustion of 92 grammes of sulphur per cubic metre, the moistened strips caused culture liquids, in which they were placed, to break down at the end of three or four days. The dry strips exposed in the same way produced the same result somewhat sooner—*dez le je jour*. Gärtner and Schotte have concluded from this that the germs, or protorganisms, hidden in the deeper portions of the very thick woollen goods, resist strong fumigations with sulphurous acid gas, or, with other disinfectants. They arrive almost to the point of doubting the possibility of a certain and absolute disinfection, at least by the gases or vapors."

The limits of this paper admit only of a brief abstract of the elaborate experimental researches relating to the value of sulphur dioxide as a disinfectant, made by Koch[2] and by Wolffhügel,[3] under the auspices of the Imperial Board of Health of Germany, and published in the first volume of the *Mittheilungen aus dem Kaiserlichen Gesundheitsamte*.

The experiments of Wolffhügel relate to questions concerning the practical use of SO_2, the best methods of producing it, etc., while those of Koch are designed to fix its exact germicide value. In Koch's first experiments sulphur dioxide was generated by burning sulphur in a box having a capacity of 290 litres. Other experiments were made in a closed chamber. The amount of SO_2 present was estimated at the outset and at various intervals. Thus in his third experiment, in which the disinfection box was used, the amount of SO_2 was:

At first,	6.13 vol. per cent.
At the end of 24 hours,	4.88 " " "
At the end of 72 hours,	4.47 " " "
At the end of 96 hours,	3.3 " " "

In this experiment only spore-containing material was exposed in the disinfection box. This consisted of old dried miltzbrand (anthrax) blood, anthrax spores dried upon silk threads, spore-containing earth, and hay bacillus spores dried upon blotting

[1] Op. cit., p. 253.
[2] Op. cit., pp. 252–261.
[3] Ibid., pp. 188–233.

paper. The result was entirely negative, the developing power of the spores was not in any instance destroyed, even after ninety-six hours' exposure, and a mouse inoculated with the dried blood, exposed for this length of time, died promptly of anthrax.

The results obtained with material not containing spores, were more satisfactory; but still not of a nature to give confidence in this agent as a reliable disinfectant for the purposes and in the manner in which it is commonly applied. The experiments show, in the first place, that it is not safe to apply the data obtained by burning sulphur under a bell-jar, or in a tight box of small dimensions, to disinfection on a large scale, owing, principally, to the rapid loss of the gas which occurs in an ordinary apartment, with all apertures carefully closed. Thus in Koch's fifth experiment in a closed chamber, the rapid loss of SO_2 is shown by the following figures:

At the end of half an hour,	3.12	vol. per cent.
At the end of 2 hours,	1.25	" " "
At the end of 22 hours,	0.015	" " "

In Experiment No. 2, made in a box having a capacity of 290 litres, anthrax bacilli, without spores, from the spleen of a mouse recently dead, and dried upon silk thread, were destroyed by exposure for thirty minutes to SO_2 in the proportion of 1 vol. per cent.

In Experiment No. 7, also made in the box, the amount of SO_2 at the outset was 0.84; at the end of twenty-four hours, 0.55. An exposure of one hour in this experiment destroyed anthrax bacilli (still moist) upon silk thread. Four hours' exposure failed to destroy the vitality of *Micrococcus prodigiosus* growing upon potato, but twenty-four hours' exposure was successful. The same result was obtained with the bacteria of blue pus.

In Experiment No. 8, it was found that an aqueous solution of SO_2 of 11.436 per cent., by weight, did not destroy anthrax spores in twenty-four hours, but was successful in forty-eight hours. When the proportion of SO_2 was reduced to 5.718 per cent. disinfection was only accomplished after five days' immersion in the aqueous solution.

According to Arloing, Cornevin, and Thomas, sulphurous acid does not destroy the bacteria of symptomatic anthrax, which contain spores.

The Experimental results thus far recorded will perhaps prepare those who have heretofore had implicit faith in the disinfecting power of sulphurous acid, to accept without too much incredulity the following results obtained by the writer in recent experiments with this agent.

At the request of Dr. Wm. M. Smith, Health Officer of the Port of New York, I visited that city on the 9th of last January, for the purpose of applying biological tests in an experiment designed to ascertain whether it is practicable to disinfect rags in the bale. A manufacturing chemist of New York proposed to accomplish this by injecting sulphur dioxide into the interior of the bales through hollow tubes. The SO_2 had been compressed to the liquid form in copper cylinders, and being under a pressure of six atmospheres was expected to permeate the bale thoroughly when the valve was opened leading to the hollow and perforated screws introduced into it. The bale was to be placed in a closed chest of moderate dimensions, and disinfection was to be accomplished within a few minutes.

The experiment was made at the Baltic Stores, Brooklyn, in the presence of Dr. Smith, Health Officer of New York, Dr. Raymond, Commissioner of Health of the City of Brooklyn, and several other gentlemen belonging to the Health Department of New York and of Massachusetts.

The following material, which I had brought in sterilized tubes from the biological laboratory of Johns Hopkins University, Baltimore, was introduced into the bale through openings made with a pocket-knife. The depth of these openings was from two to four inches. The material to be disinfected was upon pledgets of cotton previously sterilized, which had been saturated with pure cultures of the various test-organisms. Some of these pledgets had been subsequently dried at a low temperature, others remained moist. The apertures in the bale were closed, after introducing these bits of cotton, by tamping in strips of old muslin. When these preparations had been made the bale of rags was placed in the disinfection chamber and the gas turned on. The time during which the gas was allowed to flow was three minutes and a half. The pressure, as shown by a gauge in connection with the copper cylinder, was eighty pounds at the commencement and seventy-five at the close of the experiment. The disinfection chamber was not tight, and all those in the vicinity were obliged to retire to a respectful distance to windward while the gas was flowing and for a considerable time afterward, owing to the abundant escape and stifling effect of the SO_2. It was only after an interval of twenty or thirty minutes that the disinfection chamber could be approached to withdraw the bale, and after it had remained in the open air for some time, I was almost suffocated while removing the pledgets of cotton containing the test organisms. These were at once placed, with sterilized forceps, in sterilized glass tubes, and each tube was at once plugged with sterilized cotton. In this way they were taken back to the laboratory in Baltimore, where the test of disinfection was completed by culture and inoculation experiments. The nature of the material and the result of the experiment are given in the accompanying table:

Other pledgets of cotton had been exposed in the bale, which had been saturated with tuberculous sputum, but this part of the experiment was not followed up, owing to the scarcity of rabbits for inoculation.

Soon after my return to Baltimore, I received from the manufacturer in New York, a copper cylinder, containing a liberal supply of SO_2 in liquid form. With this the following experiment was made, January 25, in a closet having a capacity of eight cubic yards. This closet, in the basement of the biological laboratory, had been constructed under the stairway as a refrigerating chamber. The walls were double and filled in with asbestos, and the door, made in the same way, was fitted to close as accurately as possible, and held closed by a strong clamp.

Number of tube containing cotton pledget.	Nature of material.	Test by cultivation.	Result.	Test by inoculation.	Result.
No. 1.	*Bacillus anthracis* containing spores (dry).	One culture tube.	Abundant development of anthrax filaments in twenty-four hours.	One rabbit inoculated subcutaneously.	Died of anthrax on third day.
No. 2.	*Bacillus anthracis* containing spores (dry).	One culture tube.	Abundant development of anthrax filaments in twenty-four hours.	One rabbit inoculated subcutaneously.	Died of anthrax on third day.
No. 3.	*Bacillus anthracis* containing spores (moist).	Two culture tubes.	Abundant development in both.	One rabbit inoculated.	Survived the inoculation.
No. 4.	*Bacillus subtilis* spores (dry).	Two culture tubes.	Abundant development of *Bacillus subtilis* in both.		
No. 5.	*Bacillus subtilis* spores (moist).	Three culture tubes.	Abundant development of *Bacillus subtilis* in each.		

A sufficient quantity of the liquid SO_2 to produce ten volumes per cent., when volatilized in the closet described, was drawn from the copper cylinder into a large beaker, quickly placed upon the floor of the disinfection chamber, and the door closed. At the end of twelve hours the door was thrown open and the gas permitted to escape. The test-organisms were exposed upon little pledgets of absorbent cotton, which had been saturated with culture-fluids, containing the various microörganisms employed. Some of these pledgets of cotton had been dried at a low temperature in advance of the experiment, and others were exposed moist.

Some of the prepared bits of absorbent cotton were placed in glass tubes, open at one end and sealed at the other. Other pledgets were loosely folded in a single thickness of heavy muslin which had been sterilized by heat. The ends of these little packages were left open, so that the SO_2 might have free access to the interior. These packages properly labelled, were placed in the inside pockets of a coat, and this was suspended in the closed chamber used for the experiment. The glass tubes were placed in an open pasteboard box upon the floor of the disinfection chamber. Other pledgets of cotton, similarly prepared, were wrapped up in little bundles of cotton, weighing half an ounce each, and enveloped in a single layer of sterilized muslin. Still other pledgets were wrapped up in a woollen blanket, in such manner that they were in the centre of a compact bundle, eighteen inches long, and ten inches in diameter. The result as determined by cultivation experiments, was as follows:

Cotton pledgets exposed in glass tubes.

Micrococci from case of vaccinal erysipelas, moist, and dry. No development from the moist material, abundant development of micrococci from dry material.

Bacillus subtilis (spores), moist and dry. Abundant development of *B. subtilis* at end of twenty-four hours from both moist and dry material.

Bacillus anthracis (spores), dry. Abundant development of anthrax bacilli within twenty-four hours.

Cotton pledgets placed in coat pocket.

Micrococci from case of vacinal erysipelas, moist and dry. Two culture-tubes inoculated from each. Abundant development of same micrococci within twenty-four hours.

Bacillus anthracis (spores), moist and dry. Two tubes inoculated from each. Pure cultures of *B. anthracis* obtained in each within twenty-four hours.

Bacillus subtilis (spores), moist and dry. Two tubes inoculated from each. At the end of twenty-four hours a mycoderma of *B. subtilis* was found upon the surface of the culture liquid in each of these tubes.

The complete failure thus far made it useless to open the bundles of cotton and the rolled blanket, which were put aside for further experiments.

On the 1st of February a second experiment was made in the same disinfection chamber upon test-organisms prepared as before. In this experiment the conditions were changed by the introduction of steam into the chamber through a tube connected with a retort outside. Two litres of water were evaporated, and the steam passed into the chamber during the first four hours of the experiment. The amount of SO_2 in this experiment was increased to twenty volumes per cent.; the time of exposure was twelve hours; the result as follows:

Organisms exposed in coat-pocket.

Coat suspended from wall, and pledgets of cotton loosely folded in filter paper, with ends of packages open for free admission of gas.

B. subtilis (spores), moist and dry. Abundant development in twenty-four hours in culture fluids inoculated with the exposed spores.

B. anthracis (spores), moist and dry. Abundant development of anthrax filaments in culture-tubes inoculated with this material.

Micrococci—pure culture—from blood drawn from inflamed area in a case of erysipelas. Two dry and one moist pledget. Pure cultures of this micrococcus were obtained from all of these after exposure in coat-pocket as described.

Organisms exposed on pledgets of cotton in open tubes placed upon the floor of disinfection chamber.

B. subtilis (spores), dry and moist. Abundant development in culture fluids.

B. anthracis (spores), dry and moist. Pure cultures obtained from exposed material.

Micrococci, from erysipelas (same stock as above), two pledgets, dry. Pure cultures obtained from both.

The complete failure to destroy the test-organisms under the conditions mentioned induced me to try the following experiment:

February 2.—Pure SO_2 in liquid form was poured into a tube (experiment in duplicate) containing spores of *B. subtilis* on dry cotton. The rapid volatilization of the liquid, produced, of course, intense cold. As the tube was long and narrow, and volatilization was restrained by the low temperature, the time of contact with the SO_2 was at least ten minutes. The vitality of the spores thus brought in contact with liquid SO_2 was not impaired, as shown by culture experiments.

The experiment was repeated Feb. 5, with anthrax spores upon *moist* cotton. The result was the same. Anthrax filaments appeared in cultures inoculated with these spores at the end of forty-eight hours.

It was evidently useless to extend these experiments so far as spores are concerned; but the question remained as to the practicability of destroying pathogenic micrococci and bacilli without spores. As Koch has shown that the loss of sulphur dioxide is very rapid from a room which is carefully closed to prevent its escape, the following experiments were made in a gas-tight receptacle:

February 2.—The following named test-organisms were placed under a bell-jar, having a capacity of one gallon. The jar was sealed below by resting in a trough containing mercury. Enough liquid SO_2 to make twenty volumes per cent. was introduced into this jar, and was, of course, quickly volatilized. The time of exposure was eighteen hours; result as follows:

Micrococci (pure culture) obtained from a case of vaccinal erysipelas (culture started from drop of blood drawn from inflamed area). One moist and two dry pledgets of sterilized cotton, previously saturated with this culture, were exposed in glass tubes open at one end. Also a few drops of the culture fluid poured into a similar tube. Result negative; disinfection was complete, as proved by attempt to start cultures from the exposed organisms.

Micrococci (pure culture) from blood of woman with puerperal septicæmia (fatal case). Exposed one pledget of cotton, moist, in glass tube; and a few drops of culture fluid in the bottom of two other glass tubes; disinfection complete.

Micrococci (pure culture) from vaccine vesicle. Exposed two pledgets of cotton, moist, and one tube containing a few drops of a pure culture; disinfection complete.

Micrococcus ureæ (pure culture in beef tea). Exposed one pledget of cotton, moist, and one tube containing a few drops of culture; disinfection complete.

Having determined by this experiment that SO_2, even in the absence of moisture, may kill micrococci, a second experiment was made to ascertain whether the quantity of the disinfecting agent could be reduced, so as to bring it more nearly within practical limits.

Feb. 7.—SO_2 was introduced under bell-jar, as above described, and the following test-organisms exposed to its action for twenty hours:

Micrococci from vaccinal erysipelas.[1] Exposed two pledgets of cotton, dry, in glass tubes. From one of these, cultures of this micrococcus were obtained; cultures inoculated from the other remained sterile. Two pledgets of cotton moistened with a recent culture were also exposed. Cultures from these remained sterile. A few drops of a fresh culture placed in the bottom of a glass tube subsequently fertilized sterilized culture-fluids—failed to disinfect.

M. ureæ, exposed upon two pledgets of cotton, moist; disinfection complete.

In the above experiment the material to be disinfected, was placed near the bottom of the jar. In the following experiment a taller jar, having a capacity of five litres, was used; and the test-organisms were exposed upon a shelf near the centre of the jar. As before, liquid SO_2 was introduced in an open beaker, in a proper quantity to make four volumes per cent. The time of exposure was twenty hours.

Micrococci (pure culture) from vaccine vesicle, on cotton, moist; disinfection complete.

Micrococci, puerperal septicæmia, pure culture on cotton, moist; disinfection complete.

Micrococci, vaccinal erysipelas, pure culture on cotton, moist; failure to disinfect.

Micrococci, from vaccine vesicle, on cotton, dry, in duplicate; disinfection complete in one, failure in the other.

I have also tested the germicide power of an aqueous solution of SO_2 on the above mentioned micrococci, with the following results:

February 5.—Equal parts of a recent culture of micrococci from vaccine vesicle, micrococci from case of puerperal septicæmia, and *M. ureæ*, were added to a standard solution of SO_2 containing five per cent. by weight. The time of contact was two hours, after which two culture tubes were inoculated from each; no development occurred—disinfection complete.

7th.—The standard solution of SO_2 (five per cent.) diluted to 1 : 50 was added, in equal portions, to a pure culture of the micrococcus from vaccinal erysipelas (making the dilution 1 : 100=0.05 per cent. of SO_2 by weight, or 1 : 2000). Cultures inoculated after two hours' contact remained sterile. At the same time a solution of 1 : 100 was added to a culture of the micrococcus from a vaccine vesicle (*i. e.*, 1 : 4000 by weight); in this case disinfection failed.

10th.—The above experiment was repeated with the last-mentioned micrococcus with solutions containing 1 : 1000, 1 : 2000, and 1 : 4000, of SO_2 by weight (after admixture with the culture fluid).

The result corresponded with that previously obtained. Disinfection was accomplished by the solution of 1 : 1000 and 1 : 2000; but failed when the amount was reduced to 1 : 4000.

[1] The writer does not commit himself to the view that the micrococci from the various sources mentioned are specifically different, and the cause of the morbid phenomena in the individuals from whose blood the cultures were started; inasmuch as he has not been able to obtain any definite proof that such is the case. On the other hand, he admits that it is extremely probable that they are concerned in the development of these morbid phenomena, and are in fact pathogenic organisms.

11th.—The same result was obtained with a recent culture of the micrococcus from case of puerperal septicæmia—*i. e.*, the standard solution of five per cent., when diluted with forty-nine parts (1 : 50) of distilled water, in two hours' time destroyed the developing power of this micrococcus, while the same solution diluted to 1 : 100 (1 : 4000 of SO_2 by weight) failed to disinfect.

These results correspond with those reported by Jalan de la Croix, who found that one grain of SO_2 in 2000 of bouillon filled with growing bacteria, causes development to cease, and destroys the vitality of these bacteria. When spores were present, however, it was necessary to increase the amount to 1 : 135 (in how long a time?).

I may add, as a matter of interest, although not directly relating to our present object, that the same standard solution of five per cent. by weight, when added to culture fluids in the proportion of 1 : 250 (= 1 : 5000 of SO_2 by weight) prevents the development of all of the above-mentioned micrococci; while 1 : 500 (1 : 10,000 of SO_2) fails to prevent the development of the bacteria of putrefaction, or of the micrococcus from a vaccine vesicle, upon which organisms alone I have thus far tested the antiseptic power of this agent. These results also correspond closely with those of De la Croix, and show that sulphur dioxide ranks very high as an antiseptic.

In view of the experimental data recorded it is evident that the use of sulphur dioxide for the disinfection of spore-containing material must be abandoned. This is the conclusion of Wolffhügel[1] on the basis of Koch's biological tests, and his own experiments. He is therefore inclined to abandon entirely the use of this agent for disinfecting purposes. He says, with reference to the question of its use for material not containing spores, that the answer to this question has very little interest, from a practical point of view, as it is impossible to say in the present state of knowledge whether we have to deal with material free from spores or otherwise. Under the circumstances Wolffhügel thinks that we will do well to abandon sulphur dioxide, and to use only such methods of disinfection as will be effective without reference to the presence or absence of spores.

I am not ready to go to this length, and to recommend the abandonment of an agent which enjoys the confidence of practical sanitarians for the destruction of the infection of smallpox, of scarlet fever, of diphtheria, of cholera, and of yellow fever, upon the ground that it fails to destroy the spores of the anthrax bacillus, or of *B. subtilis*. For the truth of the germ theory has not yet been definitely established for any one of the diseases named, and Wernitz has shown the power of this agent to neutralize non-living ferments. Admitting, however, as I do, the great probability that the infectious agent in these diseases is a living germ, we have good reason for believing that spores are not formed in any one of these diseases. We must not then be too exacting with reference to this agent, until we are able to recommend something better in its place for the purposes to which it is commonly applied, viz., for the disinfection of apartments and ships.

My experiments show most conclusively that it does destroy the specific infecting power of vaccine virus dried upon ivory points, when present in the air of a disinfecting chamber in the proportion of one volume per cent., and that in aqueous solution it destroys the vitality of various micrococci in comparatively small amounts. It is even practicable to destroy these organisms dried upon pledgets of cotton by long exposure in gas-tight receptacles. But the conditions of success are such that it appears almost impracticable to conform with them in practice on a large scale, and it is evident that much of the so-called "disinfection" with this agent is a farce.

I am convinced that the percentage of SO_2 present in the disinfection chamber, above a certain limit, is of less moment than certain conditions relating to the material to be disinfected. Thus Koch succeeded in destroying the vitality of anthrax bacilli, still moist, from the spleen of a mouse, and attached to silk threads, by exposure for one hour to 0.48 volume per cent. of SO_2, in a disinfection chamber the atmosphere of which was loaded with moisture. In my own experiments with vaccine virus upon ivory points a still smaller amount (5 volumes per 1000) was effective in four hours time. Here the favorable conditions are without doubt the very thin stratum of material to be disinfected, and the fact that it is thoroughly moistened.

Admitting that, in the absence of spores, microorganisms suspended in the atmosphere, or attached to the surface of objects may be destroyed by sulphur dioxide, when generated in a sufficient quantity in a well-closed apartment, and in the presence of moisture, the question remains whether the same object may not be as well accomplished by thorough ventilation, and by washing all surfaces—walls, ceilings, floors, furniture, etc., with a 1 : 1000 solution of mercuric chloride, which we know to be promptly destructive of germs of all kinds.

[1] Op cit., vol. i. p. 232.

DIPHTHERITIC CROUP—LIFE SAVED BY REMOVAL OF FALSE MEMBRANE FROM THE RIGHT BRONCHUS.

BY E. FLETCHER INGALS, M.D.,

PROFESSOR OF LARYNGOLOGY, RUSH MEDICAL COLLEGE; AND PROFESSOR OF DISEASES OF THE THROAT AND CHEST, WOMEN'S MEDICAL COLLEGE, CHICAGO;

AND

J. E. WHITE, M.D.

Patient A. A., aged five years and five months. First complained of his throat Friday, October 16, but until the following Wednesday night nothing serious was anticipated. That night the parents noticed croupy symptoms and the next morning Prof. Ingals was called and found small diphtheritic patches on the tonsils, with stridor in respiration and dyspnœa on any exertion. Bromide of potassium and ammonium with small doses of belladonna and opium every two hours were ordered to relieve the spasmodic tendency. One grain doses of calomel were given every hour to prevent further formation of false

membrane and two grains of quinine were ordered every fourth hour. Dr. Ingals was summoned again early the next morning, and fearing that an operation would be necessary, he asked Prof. D. W. Graham to accompany him. The child had passed a poor night but was then breathing better, and as there was no recession of the soft parts of the chest, an operation was not advised at that time. The child was given two grain doses of calomel every hour, and chloral was added to the antispasmodic mixture. The parents were warned of the danger and directed to telephone at once should greater dyspnœa occur.

Dr. Ignals was again summoned about noon, and at twelve o'clock, assisted by Doctors Graham and J. E. White, he opened the trachea. The patient rallied promptly after the operation and shortly afterward the pulse was found to be 130 and the temperature 102° F. The patient was left in charge of Dr. White. Breathing continued easy and there was no increase of temperature for about forty-eight hours, when a little more fever developed and some dyspnœa occurred, but it did not become severe until six or seven hours later. In the evening of the second day, about seven o'clock, Dr. Ingals was called hurriedly on account of sudden and severe dyspnœa. He found the patient gasping for breath and nearly suffocated.

The tubes had been removed by Dr. White and every effort made to clear the trachea, but nothing was found within reach of the ordinary tracheal forceps to account for the obstruction. After satisfying himself that the opening and the trachea were free, Dr. Ingals introduced a flexible tube throat forceps as low as the bifurcation of the trachea and finally into the right and left bronchi. At one time the septum between the two main bronchi was accidentally grasped, but the resistance felt enabled the operator to loosen his hold without injury to the part. Finally, when about despairing and when the patient's death seemed certain, a large plug of false membrane was drawn from the right bronchus, and the dyspnœa was immediately relieved. From that time until about two o'clock A.M. the patient did well, when dyspnœa again occurred, and again Dr. Ingals removed a plug from the right bronchus with the effect of giving immediate relief. Subsequently there was no dangerous dyspnœa. During the first two or three days after the operation, the mild chloride was given in diminished doses, and was then discontinued.

During the greater portion of the first week half a teaspoonful of alcohol was give in milk every two hours, and from eight to ten grains of quinine were given daily in two grain pills. A part of the time a stimulating expectorant was employed with decided benefit. For the first two days after the operation a steam atomizer charged with a solution of carbolic acid gr. xxx, glycerine ʒj, bicarb. sodæ ʒj to lime-water Oj, was kept running close to the bed about two-thirds of the time. Subsequently, for several days it was kept going constantly, and whenever the secretions seemed to be getting dry it was held close to the tube for a few minutes so that the steam was inhaled.

The diphtheritic membrane remained in the throat about a week. Eight days after the operation the child was still unable to breathe with the tube closed.

Two days later a smaller tube with a large fenestra was inserted, and the child was able to breathe when the tube was corked. Two days later, fourteen days after the operation, the tube was removed, and ten hours later the wound had contracted so that no air escaped. Healing speedily occurred, but the child's larynx remained sensitive to the slightest changes of temperature for many weeks.

In this case the operation was done promptly, and gave immediate relief, there being no membrane at the time below the opening into the trachea. The diphtheritic membrane, however, finally spread to the trachea and bronchi, and the time when such cases generally prove fatal—that is, between the forty-eighth and seventy second hour after the operation—this case would have been lost but for the removal of the plug of false membrane from the bronchus. Possibly many of the cases which are lost at this stage, might be saved by a similar procedure.

The indication for such procedure is severe dyspnœa, coming on rapidly or suddenly when the trachea is known to be free. Feeble respiration over one lung only might indicate the position of the false membrane.

STRANGULATED INGUINAL HERNIA. DURATION OF SYMPTOMS SIX DAYS. OPERATION: REMOVAL OF PORTION OF OMENTUM. RECOVERY.

BY WM. G. PORTER, M.D.,
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T. E. V., American, æt. 20, a brakeman, was admitted to the Presbyterian Hospital, in Philadelphia, on Tuesday, October 21, 1884, with a strangulated scrotal hernia of the right side, and gave the following history:

About five years ago he noticed a tumor about the size of a hickory-nut in the right groin. "It came and went," and he did not know that it was a hernia until about two years ago. He never wore a truss, and it never gave him any trouble. On the preceding Wednesday night, October 15th, while marching in a political procession, he was suddenly seized with the symptoms of strangulation. He had no movement of the bowels from the time of seizure, and had suffered with pain and obstinate vomiting, which had been of a stercoraceous character for some time previous to admission. His treatment before he came to the hospital had consisted of castor oil and morphia internally, ice locally, and taxis, all of which had failed. On admission his expression was anxious, his abdomen was tympanitic, his pulse 100, his temperature 100⅕°, his tongue was dry and covered with a yellowish fur; he was not suffering much pain, and he had vomited stercoraceous matter an hour before his admission. The symptoms having existed so long no effort at taxis was made, but the patient was at once etherized, and the operation for strangulated hernia performed. On opening the sac quite a mass of omentum and a small knuckle of intestine were found. The intestine was dark but otherwise sound, but the omentum was considerably bruised and largely

adherent to the sac. The adhesions were separated, the constriction relieved by the knife, and the bowel returned to the abdomen. A portion of omentum—about as large as an ordinary sized adult hand—which I feared would slough, was removed, and then the stump of the omentum, *including the sac*, was transfixed with a needle, armed with a double ligature, and securely tied just at its exit from the inguinal canal, the edges of the wound were brought together by a few interrupted sutures, a sufficient opening being left at its most dependent portion for drainage.

Shock was quite marked, and hypodermics of whisky were given with strong ammonia by inhalation and aromatic spirits of ammonia by the mouth as soon as he was able to swallow. The operation was performed at 5.30 P. M., and at 6.30 P. M. he had recovered from the ether and was complaining of great pain Morphia gr. ⅛ was given hypodermically, and this was repeated at 7 o'clock, and at 8.30 gr. ⅛ more was given by the mouth. The pain was now entirely relieved, and he went to sleep His pulse was 116, temperature 98°, and respiration 24. He retched somewhat after the ether, and belched wind that had a decidedly intestinal odor, but he did not vomit. The patient was kept fully under the influence of morphia. Small fragments of cracked ice were allowed and occasional hypodermics of whisky were given.

On the next day his temperature was 101°, and on the following day 102.° On the second day he passed some wind from the bowels; the only nourishment allowed was very small doses of lime-water and milk, equal parts, and he was kept fully under morphia. Warm fomentations were applied to the abdomen.

At 3 o'clock A. M., on the 24th, he had a liquid fecal movement per anum, another at 5 A. M., and another at 6 A. M. The wound gaped, and its edges sloughed somewhat; several bruised portions of skin were involved in the incision at the time of operation, these all sloughed. A charcoal poultice was applied.

The ligature from the stump of the omentum came away on the 28th, one week after the operation, the wound cleaned off and gradually granulated and cicatrized. The patient was allowed to get out of bed on the 15th of November, and was discharged cured, and left the hospital, wearing a light truss, on the 4th of December.

The points of interest about this case are the length of time which elapsed between the appearance of the symptoms of strangulation and the operation, with the recovery of the patient, the exceedingly small quantity of nourishment which is necessary to support life when the patient is kept under the influence of morphia, and the treatment of the omentum.

In regard to the first, the fact that the bowel was found in as good condition as it was after the long persistence of the strangulation, was largely due to the amount of omentum which was found in the sac, and which completely surrounded the bowel. In another case of strangulated hernia operated on a few days ago, in which the symptoms had persisted for five days previous to the operation, and in which very little omentum was found, the bowel was found to be perforated in two places.

In regard to the second point, while the symptoms of strangulation continued, and the patient was vomiting, of course little, if any, nourishment could have been absorbed, so that from the fifteenth to the twenty-first the patient was practically without food; during the night of the 21st whiskey f℥ij, milk f℥ij, and lime-water ℥j were mixed together, and a teaspoonful of the mixture given every two hours, and on the 24th of the month, nine days after the commencement of his symptoms, he was only taking in twenty-four hours twelve ounces of milk; this amount was very gradually increased, and solid food was not allowed for several weeks. The patient became very tired of his monotonous diet, but never complained of hunger during his treatment, although naturally he was a hearty eater.

In several cases in which I have adopted this method of treating the omentum, and in others in which I have seen it done, I have been much pleased with the results.

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MEDICAL PROGRESS.

A Rare Case of Purulent Peritoneal Exudation which Simulated Ascites; Cure by Puncture.—Dr. B. Pernice, in the *Gazetta degli Ospitali*, No. 33, 1884, records a rare case of purulent peritoneal exudation which simulated ascites. The patient was a man 25 years old. Three years previously he had fallen, and struck his belly on the right side, from which he experienced severe pain and cramp. Nevertheless in a few hours he was able to go home alone, though subsequently fever, pain in the abdomen, and vomiting followed, and he was compelled to keep his bed about a month. At the end of this time, he resumed his work, and considered himself perfectly well, inasmuch as all pain had disappeared, and his general nutrition was excellent. Shortly, however, the pain returned, and seriously interfered with his work by rendering respiration difficult. He was now compelled to enter a hospital. After remaining a month, he was discharged improved but not cured, and soon after the former symptoms returned with increased violence.

The patient's history was that of a perfectly healthy man until three years ago; since that time he had indulged freely in alcoholic drink. Examination showed a thoracic temperature of 98⅘° F. The belly was very voluminous, not painful but only slightly sensitive on deep pressure. Palpation revealed fluctuation over the whole belly, and percussion showed that nearly the whole cavity was filled with fluid, only a small zone in the umbilical region being tympanitic. Accurate deep examination was impossible owing to the tense condition of the abdominal walls, and the abundant collection of fluid. A line carried from the ensiform cartilage to the os pubis, measured 20 inches. The greatest (abdominal) circumference was 41 inches. The inferior border of the liver was not distinguishable, but the upper was normal. The spleen was also normal. Urine normal, with no trace of albumen. The fact that the man was a drunkard, rendered it probable that the fluid was ascitic. On the other hand, the traumatic origin of the disease together with the history of vomiting and fever, and the normal condition of the heart

and other organs, pointed to the existence of chronic peritonitis. Puncture was at length resorted to, and about 18 quarts of an opaque purulent fluid were evacuated, with the entire relief of the patient. The abdomen on examination was somewhat resistent, but no evidence of any abdominal neoplasm was discoverable, and the lower border of the liver was found to be normal.

Three months afterward, the patient again returned to the hospital, and 12 and 8 quarts of purulent fluid were again evacuated by puncture. He was detained some days after the operation in order to observe his condition, but there was no elevation of temperature, and he did not complain of abdominal pain.

The man shortly returned to his occupation, and, when seen some time later, had completely recovered. From the data furnished by this case, Dr. Pernice concludes that in similar conditions, puncture at an earlier stage of the disease is indicated.—*Centralbl. für die Gesammte Therapie*, February, 1885.

TREATMENT OF BROMIDROSIS OF THE FEET.—DR. J. S. STEWART, in the *Edinburgh Med. Journal* for March, 1885, recommends as the most satisfactory treatment, to have the feet thoroughly washed in hot water, then steeped for a few minutes in a solution of permanganate of potash of the strength of from 4 to 6 grains in the ounce of water. The feet are then dried, not to be again wetted until complete exfoliation of the tanned cuticle has taken place.

Hebra's lead plaster ointment is then thickly spread on strips of cloth about one inch and a half broad, and the foot covered from the toes back over the heel as high as the malleoli with these, arranged and applied like a scultetus bandage. Each toe should first be wrapped round with a strip of clean rag half an inch broad and thickly spread with the ointment. This dressing should be renewed every twelve hours with fresh rag and ointment, for a period varying from ten to sixteen days, according to the severity of the case and the thickness of the heel skin. In most cases the odor will be very much diminished by the end of the third day, and will not be perceptible by the ninth. The shedding of the skin takes place *pari passu* with the growth of the new cuticle, and may not be completed until the end of the third or even of the fourth week.

A NEW TEST FOR BILE ACIDS IN THE URINE.—DR. OLIVER, of Harrogate, has, during the past week, been demonstrating in several of the London hospitals what he believes to be a new test for the detection in the urine of the derivatives of the bile salts. It is in the form of a test solution, and also in that of test paper. The reaction of the test is founded on the physiological fact that when the bile mingles with the acid solution of peptones in the duodenum, the proteids are instantly and completely precipitated. The test solution is an acidulous antiseptic solution of peptone, and does not present to the urine a constituent extraneous to the organism. When brought into contact with a urine containing a bile-salt derivative, a precipitate resembling that of albumen when thrown down by nitric acid at once appears. By using a standard of opacity to represent the very delicate reaction induced in normal urine, Dr. Oliver showed how the quantity of the bile derivatives, as they appear in the marked deviations encountered in disease, can be readily gauged. He has, we learn, found bile acids plentifully present not only in the urine of jaundice and of other hepatic affections, but in that of several cases of anæmia (simple or idiopathic, leucocythæmic or malarial), and of other morbid conditions; and his observations generally appear to be of some clinical interest. We understand that Dr. Oliver is preparing for early publication the data he has collected.—*Lancet*, March 7, 1885.

ACTION OF THE ALKALOIDS OF QUEBRACHO.—DRS. E. HARNACK and H. HOFFMANN, in the *Zeitschrift für klin. Med.*, Bd. viii. Heft 6, 1884, give the following *résumé* of their researches on quebracho.

The bark contains four crystallizable alkaloids, *aspidospermine*, *quebrachine*, *quebrachamine*, and *aspidospermatine*, and also two amorphous alkaloids, *aspidosamine* and *hypoquebrachine*.

The writers have studied the action of these alkaloids upon frogs and mammals, and have arrived at the following conclusions:

All the alkaloids of quebracho exercise a paralyzing influence upon respiration in mammals as well as frogs, and in this respect quebrachine has a marked power of action. All the alkaloids excite a feeling of nausea; but aspidosamine alone causes vomiting. Hypoquebrachine and aspidosamine paralyze only the extremities of the motor nerves. They all paralyze directly the striated muscular fibres of frogs, but in mammals this effect is much less marked and even doubtful. In frogs the heart is rapidly paralyzed by these alkaloids, but in mammals this affect is less rapid, and usually the organ continues to beat after the complete cessation of respiration. Aspidosamine in its action upon frogs closely resembles apomorphia. This similarity in action does not obtain in man. Thus the emetic effect of apomorphia is shown after the administration of a much smaller dose than will produce vomiting with aspidosamine; and apomorphia causes violent excitement of the nervous centres, particularly the centre of respiration, whereas aspidosamine, on the contrary, quiets the respiration, and renders it superficial. The general effect which the alkaloids of quebracho have of lowering the excitability of the respiratory centre renders them of real therapeutic value, and in this respect ranks them along with morphine and hydrocyanic acid in therapeutic efficacy. They are indicated in dyspnœa depending upon disease of the circulatory apparatus to the exclusion of those originating in insufficient oxygenation or arterialization of the blood. Benefit, nevertheless, may be obtained from their use in dyspnœa due to asthma, chronic pneumonia, and intrathoracic effusions.

The alkaloids which may be best substituted for quebracho are quebrachine and aspidosamine. The latter is less energetic in its action, but is preferable on account of its special effect upon the respiration. However, it is less easily obtained pure than quebrachine, and besides has such marked emetic power, and is absorbed with so much difficulty that quebrachine or its salts is generally to be preferred.—*Gazette Hebdomadaire de Médecine et de Chirurgie*, February 13, 1885.

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PHYSIOLOGICAL EXERCISE.

"I AM no friend to violent exertion, myself," said the *Antiquary*,—"a walk in the garden once a day is exercise enough for any thinking being—none but a fool or a fox-hunter would require more."

We may not agree with Sir Walter's hero in his conception of physiological exercise; but we are equally remote from the present disposition to apotheosize the apostles of physical culture. The truth, as might be expected, lies between these extreme views. There must be a happy mean in which the balance is accurately adjusted, and exercise and repose are taken in proper measure to secure the highest efficiency of the human machine. The amount and character of the exercise best suited to produce and maintain this efficiency, are, then, the problems awaiting solution.

How far is the present enthusiasm—craze—for athletic sports, justified in human experience? The most casual inspection suffices to acquaint us with the fact that those who are required frequently to exert their utmost strength—as laborers and porters—and those fond of exhibiting their prowess as athletes, early exhaust the sources of power, and are short-lived, even if they escape the accidents due immediately to over-exertion. It is equally evident that those who reach the most advanced life are persons who have combined cheerful, continuous, even severe mental occupation with very moderate exertion of their physical powers—persons whose attention has been given to intellectual pursuits, and who have taken systematic exercise in a mild form.

Reduced to the last analysis, there are two objects to be subserved by exercise: to supply to the more rapidly circulating blood an adequate quantity of oxygen; to increase the activity of the nutritive processes, especially in the muscular system; and, as a necessary result of these, improved appetite and digestion wait upon a greater demand for aliment. It goes without saying that exercise increases the action of the heart and the frequency and depth of the respiratory movements. It is equally apparent that during active bodily movements the muscles receive and appropriate more material both for the evolution of force and the regeneration of their own structures, so that the physiological interchanges, of which they are the seat, become greatly more rapid and thorough. How much exercise, then, is needed to comply with the physiological requirements? Are athletic sports and exercises best adapted to accomplish the object in view, or will "a walk in the garden once a day" suffice? As it is evident that ordinary walking exercise will effect the results desired from the physiological standpoint, it becomes necessary to appeal to experience to decide the case of athletic games and sports.

As, indeed, the question of exercise can arise only in respect to the sedentary, and growing youths of both sexes, we have but to consider the effects of athletics on such subjects. In them the ill-results of violent physical exertion have unfortunately been too often observed not to be distinctly recognized. These results are, as all the world knows, cardiac troubles, aneurism, pulmonary emphysema, joint diseases, and other affections. The risk of such lesions is in direct ratio to the lack of preparation. Whilst it is true that graduated exercises may lead up to the most elaborate and severe feats, no amount of training suffices to obviate all the dangers of the necessary overexertion. Everybody is familiar with the history of Dr. Winship—Boston's strong man—who performed unparalleled feats of strength, but died in the thirties with some disease of the great vessels, produced by his tremendous exertions. If those who are trained in all athletic exercises experience such ill-results from their practice, what must be the consequences to the sedentary who suddenly takes on himself the performance of such violent feats. If athletics are to continue their hold on popular esteem, it is time that aptitude should be considered and a just appreciation of the dangers of overexertion should be made apparent.

For the great mass of the population, a true conception of a merely physiological exercise is of vastly greater importance than any training in athletics. It is in this direction that men and women need to turn to accomplish a higher physical development, rather than to dumb-bells, the crossbar, the trapeze, and all the paraphernalia of systematized movements. For these contrivances must, to most men and women, be either unsuited or injurious. The

present rage for athletics properly so-called, should, therefore, be discouraged, in that it leads the public mind away from physical training that may be universally employed. If special movements and contrivances therefor be accepted as the proper solution of the problem of exercise, the tendency will be, of course, to restrict such physical training to those who are in a position to avail themselves of such opportunities, whilst the mass of people will hold themselves absolved from attempting the unattainable. Within the hearing of the masses, a crusade should be preached to arouse them to the needs of an available physiological exercise. We may define this physiological exercise for children and youths of both sexes to consist in the unrestrained movements of the usual play and games, and for adults in walking, running, leaping, horseback riding, etc., within the limits imposed by the physical condition of each person.

An important element in the problem of physiological exercise is the time when it is to be undertaken. In the prescription of the physician, too often this necessary question is left to the decision of the patient; on the other hand, the advice given may be very unwise. We have known delicate valetudinarians, who had by choice, or habit, or necessity, taken a light supper in the early evening, directed to exercise before breakfast. It may be well in the case of those who have dined sumptuously at night to rid the organism of surplus and effete material, before partaking of the morning meal, but as a rule this is an inappropriate time for active exertion. To utilize the increased supply of oxygen which is the chief purpose of exercise, the best time to accomplish it is when the foods prepared by the primary assimilation, are pouring into the blood, for, then, this important agent is needed in full measure, to perfect the final changes, and to secure the elimination by the same agency—oxidation—of effete substances. If this physiological principle be truly grounded in the requirements of nature, the proper time for exercise is three or four hours after meals.

An application of the same principle may, with eminent propriety, be made to the question of work after eating. As the digestive functions require for their best performance all of the available surplus blood of the body, it is obvious that active exercise and work which divert this surplus blood to the muscles, must interfere with the proper disposition of the food, and either arrest its solution and absorption, or so interfere with these processes as to prepare only crude matters for entrance into the circulation. An application of the same principle should fix the hour for the most important meal at a time after the work of the day has been done. If, then, dinner be taken in the evening, as, for physiological reasons, seems most suitable, some active exercise is needed before retiring for the night.

An application of the same principle may equally be made to the needs of men of letters, for the work of the brain, as of the body, demands the utilization of all the available blood, since in the performance of this tidal function, now the digestive organs, again the muscles, and now the brain, require the transferable surplus for their best work, and only evil results when one function disputes with another the supply of necessary sustenance. These are trite observations, but this seems to be an occasion when their restatement is desirable.

PROPAGATION OF CHOLERA BY POLLUTED WATER.

It is now pretty generally conceded that the specific contagium of cholera is chiefly to be found in the bowel evacuations of persons suffering from this disease, and that the infecting matter must gain entrance into the intestinal canal to produce cholera in another. Infection may take place through the medium of air or food, but drinking-water is a very frequent and common means of dissemination. Since Dr. Snow first announced his views, in 1849, respecting the propagation of cholera by polluted water, founded on facts gathered at Horsleydown, Wandsworth, and other places, and subsequently confirmed by evidence in the famous and conclusive Broad Street pump case, other and abundant evidence of the most unequivocal character has been collected, which goes far to establish this opinion. Hence many of the former opponents of the theory, among them Pettenkofer, are forced to admit that this mode of conveyance of cholera does actually exist.

The evidence from India, the home of the disease, is, in the main, confirmatory of this view. Drs. Macnamara, Townsend, and Cleghorn, who have devoted special attention to the subject of cholera, have all furnished very strong proofs of the fact that the dissemination of this disease is largely dependent on the use of impure water. It is a matter of common observation in that country, that whenever the use of polluted water has been abandoned and a pure supply substituted, the disease has quickly abated. This was notably the case in Calcutta, which formerly procured its supply of drinking-water from open tanks, and, to some extent, from the Hoogly River, both of which sources were exposed to pollution. After an improved supply had been obtained, there was a marked diminution in the cases among all classes of the inhabitants.

The cities of Dantzig and Königsberg, in Germany, used to suffer equally from cholera whenever the disease made its appearance in Europe. Dantzig procured a supply of water from a new and unpolluted source and ceased to suffer from the disease, while Königsberg continued to use the old supply, and continued to suffer. During the prevalence of cholera in Holland in 1866, Dr. Ballot states that all those

towns in which rain-water alone was drunk, had either no cases of cholera or very few single cases, and these were supposed to have been imported; while, on the other hand, in those places where the water-supply was derived from the canals or wells, both highly polluted with sewage, the disease prevailed. The City of Amsterdam, which is supplied with rain-water carefully collected and distributed, had only 4 deaths per 1000, while other cities and towns supplied with water from the polders and canals had a rate of mortality of from 16.8 to 17.7 per 1000.

The outbreak of cholera mentioned by Prof. Chandler as occurring in a village near the Central Park, New York, in 1866, was traced to the polluted water of the village well. In the celebrated case of the Van Brunt Street well, Brooklyn, which was polluted by sewage, the disease spread among the fifty families supplied by it, until the use of the water was prohibited. Dr. Simon has shown, that in London, those houses supplied with polluted water from the river furnished a death-rate from cholera equal to 13 per 1000, while other houses situated under quite similar circumstances except that they were supplied with pure water, furnished a death-rate of only 3.7 per 1000. Similar examples are furnished by Frankland in the case of London, by Schifferdecker in the case of Königsberg, and by Parkes in the case of Berlin.

There is no proof that cholera may be produced by water uncontaminated by cholera evacuations, though it is probable that the use of water containing organic impurities, by causing a constant tendency to diarrhœa, and by lowering vitality, predisposes to this disease. As Dr. Wilson remarks, this much, however, appears certain, that whenever cholera evacuations make their way into drinking-water, we may expect to find the disease burst forth with the greatest virulence and fatality amongst those who use the water, and that, indeed, the endemic area will approximate with remarkable closeness to the limits of the district which it supplies.

Water specifically contaminated by cholera evacuations being the most common vehicle for the propagation of this disease, it may be stated with almost positive assurance that a town or community having a supply of pure water and a perfect system of drainage need have no dread of an invasion of cholera, even though the disease may have been brought into the place.

We have said this much with the view of calling attention to the necessity of strengthening these two prominent means of defence against the threatened invasion of cholera. We would especially caution the public against the use of water from wells in inhabited districts, which, as a rule, are grossly polluted by the soakage from cesspools and drains. The practice of obtaining a ready water-supply and a ready house-drainage in the same permeable strata is a common and most pernicious one, and it is particularly dangerous when a disease such as cholera invades a place. In many situations the only practicable method of obtaining a water-supply is by means of shallow or deep wells. In such cases the contamination of the soil by excretions should be most carefully guarded against. But in towns and cities provided with a public water-supply and a general sewerage system, pump-wells and cesspools are permitted side by side. It is an easy matter to force the abandonment of such wells, and the necessity for such action is particularly urgent at this time.

As cholera may be spread to a limited extent by other agencies, such as the air or food, it may not be out of place to remark that the most effectual means of prevention lies in the complete destruction of the infecting matter at its very issue from the body. For this purpose one drachm of corrosive sublimate with an equal quantity of common salt, dissolved in one gallon of water, is one of the most efficient disinfectants, and by its use we may prevent the infecting material from reaching the intestines of other persons, and prevent them from getting cholera.

CUNEIFORM TARSOTOMY FOR CLUBFOOT.

In the *Lancet* for February 14, 1885, may be found an abstract of a paper on the radical cure of clubfoot, read by Mr. Richard Davy before the Royal Medical and Chirurgical Society of London, in which the author records twenty-six cases of equinovarus, varus, and equinus, treated by Davies Colley's operation of excising a wedge-shaped portion of the bones composing the transverse tarsal joint. The results, briefly stated, were one death from septicæmia, or a mortality of less than four per cent.; a shortened symmetrical foot; dispensation with instruments; and locomotion on the sole. Antiseptics were not used, the open method of treating the wound having been practised, and the average stay in the hospital was seventy-seven days. Mr. Davy urged the operation in inveterate cases, and was inclined to plead for its adoption in young persons under certain circumstances.

In the discussion which followed the reading of the paper, the opinion seemed to be pretty general that Colley's operation was required in very rare cases, and that it was not indicated at all in young children. Although the procedure saves time, and tries the patience of the surgeon less than milder measures, the mortality must be far lower than four per cent. before it can obtain general recognition or replace the simpler, if more tedious, methods of treatment. Up to ten years of age, we believe, with Dr. Willard, of this city, that it is utterly unjustifiable. As Mr. R. W. Parker pointed out, the great obstacle to straightening talipedic feet is adapted

shortening of the ligaments upon the inner side and the sole of the foot. Hence, he recommends the subcutaneous division of these shortened bands in young persons, and for inveterate cases in the adult, before severer measures are adopted. In this city, where these deformities are most successfully treated, the common practice is to soften the structures of the foot for about ten days by the application of poultices, divide the plantar fascia, and then forcibly rupture the shortened ligaments by steadying the foot with the knee, grasping the limb above the ankle with the left hand, and making the necessary movements with the right hand grasping the anterior two-thirds of the foot. The limb is then placed for a few days in an immovable dressing, after which the mediotarsal joint is daily manipulated, and the limb returned to the splint. In the course of a few weeks, the varus distortion will be overcome, when the tendo Achillis is divided, through which the equinus portion of the deformity is relieved. The subsequent treatment consists in wearing the walking shoe.

There are, however, cases not only in the adult, but in older children as well, in which ordinary measures are insufficient for a cure. In such cases, cuneiform osteotomy of the tarsus more certainly overcomes the deformity than does excision of the astragalus or the cuboid bone, or of the many other operations that have been practised for that object. As shown by Lorenz, in a critical paper entitled "Die Operative Orthopädie des Klumpfusses," published in the *Wiener Klinik*, Hefte 5 and 6, 1884, the mean duration of treatment averages between six and seven weeks, and the results, so far as a useful foot is concerned, are far better than those attained by other operations. The mortality, too, is slight, since of the 91 cases which he has tabulated, only 3 died, the patient of Davy of septicæmia, that of Koeing of ulcerative endocarditis, and that of Rupprecht of diphtheria after the wound had healed, the last two being due to causes not connected with the procedure. Adding to the cases collected by Lorenz, the additional ones referred to in the discussion, by Davy, Rose, and Croft, 109 cases show only 1 death, or a mortality of less than one per cent.

FURTHER MEDICAL ADVERTISING.

Last week we called attention to the indelicacy and impropriety of a physician informing the public through the newspapers of the minute details of the progress and treatment of a case, which have been gained through his confidential relations as medical attendant. Recent developments appear to show that there is no exclusive right to this kind of newspaper notoriety.

So, doubtless, thinks the inventor of an electric osteotome, the performances of which are duly narrated in one of the issues of *The New York Tribune* of last week. We are gravely told that this is the only instrument of the kind, and that its inventor has hitherto "refrained from urging its claims on the profession until he had thoroughly demonstrated its utility," although he has "performed fifty-one distinct operations upon living subjects," with it. He, however has not refrained from giving the public the benefit of the new instrument, and to insure its due publication "a *Tribune* reporter called upon the inventor and obtained his permission to witness the operation," in which this "new instrument" was employed. As every detail of the operation is given with technical readiness, we may suppose that the reporter had friendly professional assistance. The number of the surgeon's office in New York being given, and his official positions mentioned with suitable prominence, the public are in this way invited to entrust such cases to the great inventor of the only electric osteotome.

We look now for a sharp rivalry to obtain this kind of distinction; in which it cannot be supposed that anyone will be permitted to enjoy a monopoly. As the daily newspaper, in the eager strife for sensations, is usurping the place of the medical journal, there must be a bitter contention to procure the choicest operations for the delectation of their readers, and hence every doctor who has a new instrument to describe, a bloody operation, or a loathsome case to narrate, will have his "special" at hand, and every morning we may look in the New York dailies for highly spiced professional details, furnished by the advanced apostles of "new code" ethics.

We are not justified in assuming that in every instance a physician who appears with professional details in the secular press has been privy to the publication. The ubiquitous reporter on the quest for novelties is not deterred by such a trivial consideration as medical ethics from utilizing any startling facts; but when a physician is often before the public in "locals," the impression naturally remains that he has directly contrived the publication, or has indirectly arranged to attract repertorial curiosity.

THE INDEX MEDICUS.

Last week we had the pleasure of stating that Mr. George S. Davis, of Detroit, with considerable liberality and enterprise, had undertaken to continue the publication of *The Index Medicus*, the announcement of the suspension of which, from a lack of a sufficient number of subscriptions, had been received by the profession with expressions of profound regret.

In undertaking this work, Mr. Davis incurs the

same responsibility which has resulted in an annual loss during the past six years to its former publisher, Mr. Leypoldt, but he feels that a publication which is of such inestimable value to the profession, and which is so highly appreciated by all who consult it, should not be allowed to cease, if further endeavor can make it self-supporting. In his public-spirited effort, Mr. Davis should receive the cordial encouragement and support of the profession throughout the world, for the value of *The Index Medicus* is not limited by geographical lines. We trust soon to learn that sufficient new subscriptions have been received to render its publication as permanent as it is indispensable.

THE ABORTIVE TREATMENT OF DIPHTHERIA.

In a brief communication to the *Berliner klin. Wochenschrift* for January 25, Dr. Coestes, of Biebrich, adds his testimony as regards the efficacy of the abortive treatment of diphtheria by calomel. He has recently treated five cases, including his own, by the administration of 15 grains of calomel, generally in three doses, closely repeated. Only one terminated fatally, and in that, the trachea was so much obstructed when he was called, that tracheotomy seemed inevitable. Succeeding the administration of calomel, however, with frictions of mercurial ointment and inhalations, the dyspnœa grew much less. Ultimately, however, the operation was performed, and the child died on the seventeenth day. The remaining cases all recovered, and Dr. Coestes justly says no one can take it amiss, if he, in consequence, has had his faith in the abortive treatment strengthened.

SOCIETY PROCEEDINGS.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, March 16, 1885.

The President, Charles A. Leale, M.D., in the Chair.

Dr. John Shrady read a paper on

THE ETIOLOGY OF STILLBIRTHS.

In opening, he referred to a paper read by the late Prof. George T. Elliott, before the New York State Medical Society in 1867, in which the writer, after speaking of the case of the Princess Charlotte and the subsequent suicide of Sir Richard Croft, the attendant, remarked: "There is a mournful cadence in the simple word, stillbirths, which recalls many a blighted hope, many a professional regret." Statistical tables of health departments, he said, did not shed much light on the true causes of death. In the front rank of devitalizing causes, of course, syphilis was to be placed, and it had long been recognized as an agent of fœtal death, even by the oldest writers. Abortion, when this taint was present, usually took place from the fifth to the seventh month of utero-gestation. Dr. Shrady then related several very interesting cases occurring in his own practice. In one case the mother, although under active antisyphlitic treatment all through her pregnancy, expelled a putrid seven months' fœtus, and, strange to say, a very severe rupial eruption from which she was suffering, and which a gentleman well versed in dermatology pronounced incurable, entirely disappeared after the delivery. The recovery was a permanent one, and the query arose in connection with it, Was the cure coincident with the birth, or did the birth in a measure purge the maternal system?

In citing these cases, he said he desired to draw attention to the fact that the maternal system was thoroughly saturated with the syphilitic virus, and the fœtal inoculation was also necessarily complete. He believed that the female was more likely than the male to transmit syphilis to progeny. Again, without claiming too much for the iodide of potassium treatment, he could not pass over with justice the query of the late Dr. E. R. Peaslee, whether the success of ultimate maternity may not be due to the gradual wearing out of the syphilization, as manifested by the occurrence of abortions at necessarily longer intervals, say the third, fourth, and fifth months. He could recall an instance in point, that of a mother, who, after twelve expulsions of fœti of various degrees of development, crowned her hopes in her forty-fifth year by the birth of a healthy boy, at present beginning his education at a primary school. Others might, perhaps, have been saved, but for her strong opposition to the induction of premature labor. In this case chlorate of potash in combination with tincture of the chloride of iron was persistently employed during the last three months of utero-gestation.

Having alluded to other maternal dyscrasias which might be discusssed as factors in stillbirths, such as malarial and uræmic poisoning, the concurrence of eruptive fevers, the implication of vital organs, and the supervention of nervous shocks, he said that of all these, uræmia seemed to be the most prolific of danger to the fœtus. Yet even here the latter's vitality approached the marvellous. In his own experience, in cases of scarlet fever in the lying-in chamber the child born during the inoculative state of the maternal disease, finally escaped contagion entirely. Phthisis, as being essentially a devitalizing agent to the unborn, was to be doubted. On the contrary, the generative function expanded all its energies in saving the new and jeopardized life; though the child did not usually complete its first year.

Passing from the consideration of developmental to that of local causes, he said that it was proved that metritis held a prominent place as a disturber of nutrition. How this was possible could readily be seen, since the uterine mucous membrane was to the placenta what periosteum was to bone; and when metritis was chronic in form, the ovum was not likely to retain its vitality any number of months. Malformations of the uterus, although relatively rare, are likewise mentioned, he said, as productive agents in the blight of the ovum at any stage of development, but presumably at an early date. Dislocations and flexions of the womb also opened up a field of discussion, but for the present purpose had to be dismissed with a bare mention.

In considering what he termed the more debatable portions of the subject, he referred to the diseases of the placenta; quoting from Lusk that many authors dispute the very existence of such a thing, contending that the morbid changes hitherto referred to placentitis are simply due to retrogressive metamorphoses in extravasations, while others affirm its existence, assign to it etiological relations with metritis and endometritis, and describe its pathology under the heads of congestion, hepatization, and induration and suppuration. Chief among the frequently mentioned causes of stillbirths was fatty degeneration of the placenta. The term had undoubtedly been abused in the desire to offer the readiest explanation of many phenomena, or had sometimes been adopted to conceal ignorance. The question had been raised in the minds of some as to whether the fatty placenta were not a product of fœtal death, and whether it was not in accordance with the general law in all retrogrades from a higher to a lower organization, as in the case of cicatrices, where the reparative method falls away from the standard of the original structure. A certain amount of fatty degeneration was present in every placenta at about the eighth month of pregnancy, and was, in some respects, analogous to the process of involution in the uterus itself. The shadowy line dividing the *post hoc* from the *propter hoc* was yet definite enough to prevent agreement among disputants. Still, Dr. Charles A. Leale, in a paper entitled "Degenerations of the Placenta," read before the New York Academy of Medicine, had adduced some very striking instances which seemed to corroborate the affirmative side of the question. Dr. E. S. McKee read before the Cincinnati Academy of Medicine, January 19, 1885, the report of a case in which a woman had ten miscarriages, the cause of which was apparently fatty degeneration of the placenta. She was found to be again pregnant, and was placed on the chlorate of potassium, fifteen grains three times a day. A healthy boy was then born at full term. Some time afterwards she again became pregnant, and was for the second time placed upon this remedy, for a time taking as high as thirty grains three times a day. The chlorate of potassium was given constantly with tincture of chloride of iron, except when such remedies as tincture of nux vomica or bismuth were demanded on account of the gastric disturbances incident upon pregnancy. A healthy boy was again born at term.

Tubercle in the placenta, claimed as an occasional cause of fœtal death by some, was strenuously denied by Wilkes and Nixon. These joint authors claimed that those amorphous deposits which had done duty as tubercles were made up of altered blood. Among the other classified degenerations mentioned as causes were the calcareous, the fibrinous, and the waxy, as associated with leucocythæmia.

A certain class of cases are to be regarded as mechanical both in their origin and effect. To direct blows, falls, and the like many stillbirths had been attributed; but the number of mothers who escaped such a catastrophe was immensely large. Dr. Shrady said he was inclined to doubt the efficiency of these means in the production of stillbirths, certainly to such an extent as to qualify any direct testimony in a medico-legal examination. The mother, not always a passive agent in these matters, might have seized upon the coincidence as opportune; so that in accordance with the mercy of the law, which allows all doubts in favor of the accused, the real criminal might escape punishment. In these instances when the death *in utero* was deferred, occurring at length as a marasmus, perhaps a gradual detachment of the placenta by reason of an intervening blood-clot acted as much as a lethal factor as the somewhat untenable placentitis. Prolapsed funes have contributed their quota towards fœtal mortality; the usual history of the case being, that a gush of the amniotic fluid brought down the cord, with scarcely a warning pain, before the arrival of the medical attendant.

Thus far, he said, he had discussed the matter from the maternal side; but as the late Prof. Elliott intimated, there was a side to the question which had never claimed the attention it deserved, and that such could never be fully investigated except in the light of autopsies. The pathology of fœtal life was still obscure, and yet it would probably afford a clue to many a vexed question in that department of medical science. Except when a medico-legal question was raised, autopsies upon stillborn children were exceedingly rare, on account of the objections raised on the part of the family. Yet a case of suspected infanticide was on record in England in which an autopsy exonerated the accused mother by proving the existence of a diaphragmatic hernia; the small intestines being entirely lodged in the left side of the thorax, the left lung not larger than a shilling, while a hypertrophied heart compressed the right. Such autopsies, as a rule, had revealed unlooked-for conditions. Among these he referred to effusions into the serous cavities of the thorax and abdomen, endocarditis, overdistended bladder, fatty degeneration of the entire fœtus, suppuration of the thymous gland, the presence of meconium in the air-passages and stomach, atelectasis pulmonum, and umbilical hernia, containing within its sac the liver and a great part of the intestines. The condition of the brain, however, explained by far the greater number of cases, as there are liable to be met with intracranial effusions and apoplectic clots of all sizes. These cases tended to throw light upon those mysterious deaths loosely attributed to eclampsia occurring during the sleep of the mother. The subject of abnormal presentations and maladjusted diameters was purposely avoided.

DR. EDWARD G. JANEWAY said that he had not much to add to what was already known in regard to the etiology of stillbirths; but there was one condition to which he believed the author of the paper had not alluded, which might be added to the group of local causes described, viz., myxomatous degeneration of the placenta.

DR. T. H. MANLEY thought that Dr. Shrady's paper was very instructive, as far as it went; but the subject was one of such vast extent that it was utterly impossible to do justice to it in the limits of a single essay. Churchill spoke of two varieties of abortion only, the accidental and the habitual. Dr. Shrady had, he supposed, claimed as accidental those cases due to constitutional disease. There was one cause of stillbirths of which he believed no mention was made in the paper, which he thought was a very frequent one in this community, and that was the influence of malaria. In

his own practice he had seen a number of cases of abortion in which patients were suffering from various forms of malaria. It was a difficult matter to treat pregnant women affected with this poison because the very drug on which we had to rely principally in malaria was itself liable to produce abortion. He then mentioned a case of such a patient who consulted him when six months advanced in utero-gestation. He placed her on small doses of quinine, and she apparently became cured. But one month afterward he was called to see her and found that she had had an extremely violent chill, followed by high fever. Moreover, she told him that the same thing had occurred for five successive days previous. He found her very feeble and directed that her body should be sponged, and that she should be given quinine in full doses. He left her quite comfortable; but when he called the next morning he found that she had been delivered of a stillborn child. During the night, labor had set in, and, as he lived at a distance, another physician had been called in. The evening after the birth of the child the mother herself died. He related another case in which a patient suffering from malaria, miscarried at the fifth month. Becoming pregnant again, however, she was treated carefully with small doses of quinine, and this time went to full term in safety. In regard to the matter of habitual abortion, if a woman miscarried the first time she became pregnant after marriage, there was always great danger of a repetition of the occurrence.

Dr. William T. White said in regard to quinine as a cause of abortion that during a residence of more than eight years on the Isthmus of Panama, where, on account of the malarious climate, everybody was obliged to take quinine in large quantities, he had found that it was the practice to give it to pregnant women just as freely as to others, and he had never known of any bad effect to result. In New York also he was accustomed to using the drug freely in the case of pregnant women where it was indicated, and had never seen it produce premature delivery in a single instance. When asked by a member in what doses he employed it, Dr. White said that he sometimes gave it in doses of fifteen or twenty grains.

Dr. Samuel T. Hubbard related a number of cases in his practice in which syphilis had caused stillbirths. One was as follows: The disease was conveyed to the mother by nursing another woman's child at her breast. When she consulted him, she had a sore on the nipple which presented the appearances of a syphilitic ulcer, and on inquiry he found that the child which she had nursed, as well as its mother, was affected with syphilis. The patient was at once placed on vigorous antisyphilitic treatment, but, notwithstanding this, miscarried three times successively, the first time at three months, the second at five months, and the third at seven months. The treatment was continued, however, and she gave birth at term to a child, who soon died of syphilis; though ultimately she had two living and healthy children, born at full term. The husband never had syphilis.

Dr. Jacob Hartman related the case of a stillborn child in which there was considerable deficiency in the posterior portion of the cranium, which it appeared to him from certain discharges from the uterus afterward, was due to the mechanical pressure of organized blood-clots within the womb.

Dr. I. P. Oberndorfer related the case of a woman who, having in the meanwhile had several healthy children, fifteen years after acquiring syphilis gave birth, between the sixth and seventh month of pregnancy, to a stillborn child that was the subject of a well-marked bullous syphilide.

Dr. Alexander Buchanan related the case of a woman whom he was called to attend fifteen years ago. Her husband was the subject of syphilis, and she had had seven or eight abortions between the fifth and eighth month. He placed her upon the combined treatment, and after two or three years she gave birth to a healthy child at term. She afterwards left the city and about two years ago he heard that she had died of cancer of the uterus.

Dr. C. S. Wood thought that the question of malaria and of quinine in reference to abortion should have considerable discussion, and that there should be some concert of opinion in the profession as to whether quinine was really liable to give rise to this accident or not. In view of the prevalence of malarial influences in New York, it was a matter of no little importance to decide. When during his service as an army surgeon he had been stationed in a malarious district—Sacramento, he had found that the opinion of medical men there was, that while there was no other successful way of treating malaria except with quinine, the drug ought to be given in smaller doses to pregnant women. By repeating the dose every two or three hours the same quantity could be given in the twenty-four hours, as if it was administered in one or two larger doses. In his practice in New York he has seen doses of five grains of quinine bring on threatened labor pains, which would disappear when the remedy was withdrawn, and which were not reëxcited when smaller doses were given afterward. He had never seen a single instance in which anything of the kind was brought on by quinine in small doses. There was, on the whole, much less danger of causing abortion, he thought, by the use of quinine than to allow the patient to go on suffering from the devitalizing effects of malarial poisoning. The point to which he wished especially to direct attention was how to answer the question, Is quinine given in sufficient quantities to control malaria safe in the case of pregnant women, and if not, what efficient substitute have we for it?

Dr. J. R. McGregor said that he had practised for a number of years in a portion of the city which had a bad reputation on account of the malaria supposed to be ripe there, but he could not say that he had ever had any reason to believe that stillbirths were remarkably frequent in the upper part of the Island. He did not hesitate to use quinine in the case of pregnant women suffering from malaria, and he had never seen any bad results from it. The drug was eliminated so rapidly from the system that it seemed to him to be of little use to give it in small doses, and he was generally in the habit of employing fifteen or twenty grains a day, divided into two doses. The danger attributed to quinine he believed to be largely a scare, and he thought its origin could largely be traced to our homœopathic brethren, who had no substitute for it.

Dr. S. B. W. McLeod said that it seemed to him that if malaria was a recognized cause of abortion, quinine, which opposed its action, ought to be a successful preventive of abortion when malaria was present.

For his own part he never hesitated to use it freely, and so far from having met with any bad results from it, his confidence in its efficacy and safety was constantly increasing the more he employed it.

DR. JANEWAY said that he thought it would be well to call attention to the fact that a large number of stillbirths in this city resulted from a cause which had not as yet been alluded to, viz., the use of ergot by incompetent midwives. When connected with the Board of Health, he had made quite a careful investigation of this matter, and he had found that the use of ergot constituted a pretty large factor in the etiology of stillbirths in all cases attended by midwives. Another prominent factor was the fact that in difficult cases of labor the midwives usually waited too long before sending for medical assistance. These matters he considered important, in view of the fact that about one-third of all the cases of confinement in New York were attended by midwives.

THE PRESIDENT called attention to chronic obesity as a cause of stillbirths. Although the pelvic diameters might be ample, there might be such obstruction offered by the soft parts of the mother that the child could not be born alive. Several such instances had come under his observation, and in one case he had successfully delivered the patient of a living child by resorting to the induction of premature labor.

DR. SHRADY said that he had not intended to make his paper by any means an exhaustive one, and it would, perhaps, have been better to call it, "Some Points in the Etiology of Stillbirths." In regard to the matter of malaria, however, he would call Dr. Manley's attention to the fact that he had referred to it in the same part in which he spoke of uræmic poisoning. He simply mentioned it as one of the causes and did not dwell upon it, for the reason that, living as he did in a part of the city where malaria was prevalent, he might have been accused of laying too much stress on the matter. There were other causes that he might have spoken of, such as knots in the cord, the employment of instruments, careless use of the forceps, etc.; but it would have made his paper too extensive. As regards the correctness of the explanation given of the deficiency of the posterior part of the cranium in the case mentioned, he thought there might perhaps be some doubt, on account of the mobility of the fœtus in utero, and also the softness of the blood-clot in the uterus.

EXHIBITION OF A NEW AND SIMPLE APPARATUS FOR DETERMINING THE QUANTITY OF UREA IN THE URINE.

DR. CHARLES A. DOREMUS, Professor Adjunct to the Chair of Chemistry and Toxicology in Bellevue Hospital Medical College, presented a new ureometer which he had devised. It is a glass instrument consisting of a tube bent into two arms, a longer and a shorter one, at an angle of forty-five degrees to each other. The extremity of the longer arm, on which a graduated scale is marked, is closed, while that of the shorter one, which is provided with a bulb, is left open. The long arm is filled, by inclining it, with a hypobromite solution prepared according to the formula of Knap, by dissolving 100 grammes of sodium hydrate in 250 cubic centimetres of water. By means of a nipple pipette a measured volume of the urine (1 cubic centimetre) is injected slowly up the long arm by compressing the nipple. A rapid decomposition of the urea takes place, the bubbles of nitrogen rising in the long arm, while the displaced liquid flows into the bulb, which serves as a reservoir. With care the urine may be delivered at a rate that permits the decomposition to take place without loss of gas, and the graduation on the glass indicates the weight of urea in the urine used. Two forms of the apparatus were made, Dr. Doremus said: one graduated to real fractions of a gramme, the other to show grains of urea in the fluidounce of urine. The instruments were supplied by Messrs. Eisner and Amend, of Third Avenue and Eighteenth St., New York.

DR. A. FLINT, JR., said that he was glad to be able to make some remarks on the beautiful demonstration made by Prof. Doremus. It was a thing to rejoice in whenever any addition was made to the simple methods in our possession of obtaining important results, and he thought that no more important matter could be brought to the attention of the busy practitioner than such a one for determining the quantity of urea as Prof. Doremus had just presented to the Association. If looked at from a practical point, excessive accuracy in this procedure was not a matter of importance. It was useless, and worse than useless, to attempt to secure excessive accuracy in such manipulations. The important points which the practitioner usually required to know in regard to the urine of his patient were very few, and, thanks to the present achievement of Dr. Doremus, very simple means were now at his command for obtaining them all. In the first place, a ready test for sugar was afforded by the two solutions of Dr. Squibb. The method was absolutely perfect, and by means of it the absence of sugar, which was always a more delicate matter to determine than its presence, could be positively demonstrated. In the second place, no better tests for the detection of albumen were required than the cold nitric acid test, conjoined with heat, if care was taken to have the urine under proper conditions when making the examination. In this connection he mentioned an interesting case which had come under his observation as a life insurance examiner. There was some question as to whether there was albumen in the urine or not, and on the application of heat there was a slight, but distinct, precipitate. This was undoubtedly caused by phosphates, for when nitric acid was added it cleared up; but there then followed a slight precipitate which was due to albumen. With the cold nitric acid test there was, after the urine had been set aside for two or three minutes, the characteristic white zone between the nitric acid and the urine floating above it. In the third place, the question of the amount of urea arose. The practitioner wanted to know how much urea there was in the urine of his patient, so that he could judge whether the kidneys were doing their work properly in throwing off a sufficient quantity of excrementitious products. He had long felt the want of some easy way of determining this, and the apparatus which had just been exhibited seemed to him to meet the case precisely. He, therefore, regarded it as one of the most important contributions which had been presented to the profession on the subject. In conclusion, he said he should like to ask Dr. Doremus whether it was essential that the soda of the alkaline solution should be exactly in the proportion of six ounces to the pint of water.

Dr. Doremus replied that the caustic soda solution should always be in excess. The quantity of the alkali might be greater than this; but it was never to be below it. In regard to the quantity of bromine great accuracy was not necessary. The determination of the amount of urea, it was to be remembered, was only approximated by this method.

Dr. E. G. Janeway then presented two specimens which he said he thought would be of interest. The first one, which illustrated a point in doubt, was a case of

PERFORATING ULCER OF THE ŒSOPHAGUS.

It occurred in a child who, at the age of one year, was attacked with infantile paralysis, and who afterwards died of dysentery. The ulcer, which was round, and half an inch in diameter, was situated about one inch above the entrance of the œsophagus into the stomach, and not in the posterior wall, but the left lateral wall. The point of interest in connection with the case was the fact that the existence of such a peptic ulcer of the œsophagus before death had been denied; and in his recent work on diseases of the throat and nose, including those of the œsophagus, Morell Mackenzie stated that a case of his own which he had reported some time ago as "simple ulcer of the œsophagus," as well as one of Dr. Benson, was too incomplete to be relied on. Mackenzie thought they were open to the objection that the disease may have been of malignant nature, the ulcerated surface not having been submitted to the test of microscopic examination. This, however, he believed was a case of true peptic ulcer, such as was met with in the stomach, and due to the action of the gastric juice upon the mucous membrane. It was a difficult thing to prove just what changes occurred before death, and which were post mortem in a case of this kind; but the ulcer here in the œsophagus presented precisely the same appearances as those found in the stomach, which were acknowledged by all to give rise to perforation, peritonitis, and death. In the present instance there was inflammation not only of the connective tissue surrounding the œsophagus, but also of the pericardium and left pleura. Again, the odor of the parts was entirely different from the sour odor characteristic of post-mortem gastric digestion. During life, however, so far as could be ascertained, the child presented no signs of pericarditis, pleurisy, or perforating ulcer of the œsophagus.

SUDDEN DEATH IN A CASE OF TRACHEAL STENOSIS.

The other specimen, Dr. Janeway said, was from a case illustrating a rare method of sudden death. It was that of a child who had a mass of enlarged glands on the right side of the trachea, giving rise to tracheal stenosis, and died very suddenly from asphyxia. At the autopsy a cheesy gland was found at the bifurcation of the trachea, which had produced ulceration, while occluding the stenosed passage was a white mass which had undoubtedly become detached from this, but which was at first mistaken for coagulated milk. In addition, there was a fibroid induration of the upper lobe of the right lung, and a thickening around the bronchi. In connection with this case, Dr. Janeway remarked that this bronchial and tracheal stenosis was no uncommon thing, and that we should therefore be on the watch for it. Two physicians had expressed the opinion that this child had died of paralysis of the heart; but paralysis of the heart, like the term malaria, was often used merely as a convenient expression to conceal ignorance. What was believed to be paralysis could only be determined by an autopsy. When stridor was heard in connection with tracheal breathing it should always attract attention to the glands of the part. It was a fact, Dr. Janeway said in conclusion, that in childhood we could have the whole course of tuberculosis gone through with without any elevation of temperature whatever.

The President said that he had known of a case of sudden death in connection with enlargement of the thymus gland.

RHODE ISLAND MEDICAL SOCIETY.

Quarterly Meeting, held at Providence, March 19, 1885.

The President, Oliver C. Wiggin, M.D., in the Chair.

The Chair presented a communication from the American Association of Superintendents of Asylums for the Insane, asking the approval and coöperation of the different State medical societies in a proposed petition to the President and Congress of the United States for the enactment of laws to prevent the

IMMIGRATION OF THE SO-CALLED DEFECTIVE CLASSES

of foreigners,—hoping thereby to check the alarming increase of insanity in this country.

The Society voted its approval of the proposed enactments, etc.

Dr. Robert F. Noyes, of Providence, read a paper upon

ENTERIC FEVER OCCURRING IN PREGNANCY,

embracing a report of the following case:

Mrs. X., aged twenty years, between three and four months advanced in her first pregnancy, and thirteen days sick with typhoid fever, was admitted to the Rhode Island Hospital, August 19, 1883, with a temperature of 104.2°, and a pulse of 132. She was put in a private room of the hospital, and treatment by carbolic acid and tincture of iodine, with nourishment, stimulants, and sponging instituted. The next day, the fourteenth of the disease, the evening temperature was 104.8°; pulse 120.

Fifteenth day, evening temperature 104.3°; pulse 120.

Sixteenth day, evening temperature 104°; pulse 138. On this day uterine hemorrhage occurred, which threatened to be profuse, but was controlled by position and the use of ice, after which the vagina was tamponed. At this time the patient became delirious.

Seventeenth day, temperature 104.8°; pulse 140. During the day labor pains began, the tampon was removed, and at 8.15 P.M. delivery of the fœtus and placenta was accomplished, with very slight hemorrhage; the uterus contracting well. A warm, carbolized, vaginal douche was given, and the supporting and stimulating treatment continued. During the night the patient failed rapidly, her pulse became very rapid, and at times was imperceptible at the wrist. The stethoscope showed the pulse-rate to be 168 per minute. Syncope occurred several times, which was promptly treated by removing

the pillows, elevating the foot of the bed, and brandy hypodermetically.

Eighteenth day, temperature 104.4°; pulse 130. Still delirious. The carbolic acid and iodine were discontinued, and milk and brandy only were given by the rectum.

Nineteenth day, morning temperature 105.5°; pulse 144. Delirium, carphologia, subsultus tendinum, tympanites, and tracheal râles, which last-named continued for seventy-two hours, during which time the patient was nearly unconscious. As much milk and brandy were given by mouth and rectum as was possible, together with brandy hypodermetically, and opium by suppositories. Quin. sulph., grs. xl, was also given per rectum once in six hours. The tympanites was relieved somewhat by a turpentine enema, and stupes of the same on the abdomen.

Twentieth day, morning temperature 105.5°; pulse 144. Evening temperature 103.8°; pulse 140. Same treatment continued.

Twenty-first day, morning temperature 104.2°; pulse 140. Evening temperature 103°; pulse 140,

Patient sank gradually during the day. Brandy almost constantly by the mouth. Active delirium continued till midnight, when a suppository of sulph. morph., gr. ss, was given, which greatly relieved the symptoms.

Twenty-second day, morning temperature 105.2°; pulse 140. Evening temperature 102.4°; pulse 140. Condition unchanged. Same treatment.

Twenty-third day, morning temperature 104°; pulse 135. Evening temperature 102.5°; pulse 130. Condition slightly improved.

Twenty-fourth day, morning temperature 103°; pulse 138. Evening temperature 101°; pulse 138.

Tincture of digitalis, in moderate doses, was now added to the treatment.

From the twenty-fifth day, when the temperature was 99.4°, pulse 127, to November 15th, when Mrs. X. was discharged from the hospital *well*, there was a continuous but slow convalescence. Despite all precautions, a large sacral bedsore had developed, which went through its stages of sloughing, granulation, and complete cicatrization.

Dr. Noyes then quoted many authors who teach that abortion is to be expected in the vast majority of cases of enteric fever occurring in pregnancy, and gave the following opinions as to the cause of the miscarriage:

Schrœder believes that it is due to the death of the child in the uterus from excessive accumulation of heat.

Kaniesky says that a maternal temperature above 104° F. is very dangerous to the child, and Schweden coincides in this opinion; while another author considers the uterine hemorrhage which is prone to occur in typhoid fever, to be the cause of the abortion.

Returning to the case reported, Dr. Noyes remarked that his patient had a very rapid pulse. For twenty-one days it was seldom less than 130, and for seven days it was about 140, and upon one occasion it rose to 168. The delirium also was continuous for two weeks, while the temperature for eleven days was seldom below 104° F.,—the morning temperature upon three occasions going above 105°. Now, a pulse of 130, for any considerable time, with a high temperature and continuous delirium, renders the prognosis in typhoid fever very unfavorable.

Authors were again quoted as follows: Liebermeister observed 26 patients whose pulse rose above 140, and 21 of whom died. In 12 of these cases the pulse rose above 150, and of this number 11 were fatal.

Wünderlich states that death is almost certain after a morning temperature of 105.8°, and is sure to follow a morning temperature of 106.25°.

All the cases noted by Fiedler in which the morning temperature rose to 106.25°, proved fatal.

Dr. Mann, of Central Falls, reported one case of typhoid fever, the patient being five months pregnant. She aborted and recovered.

Dr. Hunt mentioned two cases one of which was fatal. In the other, the fever was very severe, but the woman recovered without aborting.

Dr. G. C. Wiggin said he had seen three of this class of cases in his practice. Two were mild, and the patients recovered, and went on to delivery at full term, In the third case the woman was delivered of a living child on the twelfth day of the fever without being conscious of her labor nor did she know that she had been delivered until several days afterwards. The child lived, and the mother recovered.

Dr. Briggs mentioned a case in which the fever ran high for three weeks, the temperature reaching 105° daily for six days. The fever subsided. Then there was a relapse with another week of fever. Labor then came on at the eighth month, and a living child was born, greatly emaciated, but it lived twelve days. The mother recovered.

Dr. A. Ballou could recall only two instances of enteric fever during pregnancy out of the four thousand confinements he had attended.

Dr. White spoke of a case that occurred at the Rhode Island Hospital. The woman was about five months pregnant, and the fever had been running several weeks, the patient seeming to have very little conciousness the greater part of the time. Suddenly a terrific intestinal hemorrhage occurred, saturating the bed and forming a large pool on the floor of the room. When the house physician, who was hastily called by the nurse, entered the room, he found the patient lying on the floor, dead. There had been no signs of abortion in the case. The child was thought to have died early in the course of the fever.

Dr. Wiggin remarked, on the general subject of typhoid fever, that he thought it was greatly to a patient's disadvantage to be moved after once prostrated by the disease, and that if he were to find himself down with typhoid fever, and in a barn, he would rather remain there and take his chances than be *transported* o a hospital or any other place.

Dr. George W. Porter of Providence, then read his

REPORT OF A CASE OF PYOSALPINX.

Mrs. T., aged twenty-seven years, was never very strong. She menstruated first when sixteen or seventeen years years old, but was never regular, the intervals being from six to eight weeks. She has been married six years, but has had no children. Has always had dysmenorrhœa, the pain being in her back, and across the lower part of the abdomen. For the last three years there has been a "burning pain" in both hips most of the time, intermittent, and coming on chiefly at night.

Five years ago she jumped several times from a

wagon body down to the ground, and at once began to have painful micturition which has been persistent ever since. She was unable to work for a year. She was first seen by Dr. Porter last October, who found slight retroversion of the uterus, and some thickening of the utero-sacral ligaments, resulting from old inflammation, for which she was treated for a short time.

Early in November, 1884, a pessary was placed, which was followed by cellulitis. In January last she began to notice pain in the left side, referred to the hip, and different from that previously experienced in the hips. It was attended by nocturnal exacerbations, but no chills. Soon after the right ovary was found to be prolapsed, and a mass existed on the left side of the uterus, which was very sensitive, and which increased rapidly in size, assuming the sausage-shape of a dilated and bent Fallopian tube.

Operation, February 14: An incision two inches long was made in the median line of the abdomen just above the pubes. Two fingers were inserted, and the left Fallopian tube drawn up. Some slight adhesions, holding the uterus and tube backwards, were broken up. As the ovary could not be found, the incision was slightly enlarged which revealed the ovary completely encircled by the distended tube which was everywhere very firmly adherent to the ovary.

A double ligature was passed through the broad ligament and tied firmly, on one side close to the horn of the uterus, and on the other, embracing the outer portion of the broad ligament. The tube and ovary were then cut away. A little pus escaped at the uterine end of the tube, but it was carefully kept from the peritoneum. There was no loss of blood except a slight oozing from the breaking up of the adhesions. The other ovary, slightly enlarged, was felt, prolapsed into Douglas's pouch. The right tube was not distended, and with its ovary was left undisturbed. The pelvis was carefully sponged out, and the abdominal wound closed by silver sutures, so placed as to bring into contact a considerable portion of peritoneum, on each side of the line of incision. The abdomen was covered with a thick layer of salicylated cotton, and firmly strapped with adhesive plaster. The spray was not used, but the hands, instruments, etc., were thoroughly carbolized. No apparent shock followed the operation. Menstruation, not due for six days, came on the second day after the operation, and continued five days. There was some pain on the right side, but none on the left. The catheter was used for a week. On the morning of the third day and on the evening of the fourth, the temperature was 100.2°, but at no other time did it exceed 100°. The pulse did not reach 100°. The wound healed by first intention. Some of the sutures were removed on the eighth day, but the deeper ones not so early, the last one remaining for two weeks. The patient returned to her home in three and a half weeks, with an excellent appetite, and gaining strength daily The operator's only regret was that he did not remove the right ovary also.

Dr. B. R. Lymonds read a paper on

RACHITIS.

The characteristic symptoms of the disease were said to be profuse sweats; a desire on the part of patients to be cool at night, causing them to throw off the bed clothes, etc; a general hyperæsthesia of the entire surface of the body; intestinal and bronchial catarrh; febrile movements; and a soft, blowing sound, synchronous with the first sound of the heart, heard over the anterior fontanelle if still enclosed. The etiology, anatomical changes, and treatment of the disease were given in detail.

DELEGATES TO THE NEXT MEETING OF THE AMERICAN MEDICAL ASSOCIATION

were elected as follows: Drs. H. Canfield, J. W. Sawyer, O. C. Wiggin, A. G. Browning, G. H. Eldredge, F. B. Fuller, Benjamin Greene, A. Ballou, George Kenyon, Job Kenyon, H. G. Miller, Charles O'Leary, G. A. Pierce, Anita E. Tyng, of Philadelphia, H. Terry, S. Hunt, W. E. Anthony, and W. J. Burge.

Dr. E. B. Smith reported a case of

CANCER OF THE INTESTINE.

The patient was a woman 44 years old, who had led a sedentary life and suffered from constipation, and attacks of intestinal colic. Toward the close of life the stomach became very irritable, and the abdomen so enormously distended by gas that the colon was punctured every other day by a fine aspirator needle. Cancer of the sigmoid flexure was diagnosticated. The intestine became wholly occupied by the disease, so that no alvine dejection occurred after November 30th, death, however, not occurring until the 12th of the following January. The autopsy revealed a hard, cancerous mass filling the region of the sigmoid flexure, and extending into the pelvic cavity five or six inches.

Dr. J. S. Hunt reported a

FATAL CASE OF EMBOLISM OF THE PULMONARY ARTERY

occurring the *thirty-ninth* day after confinement. The patient had had phlebitis with considerable tenderness in the left groin. The heart, on post-mortem examination, was found to be empty, and death was thought to have been caused by syncope

NEW YORK SURGICAL SOCIETY.

Stated Meeting, March 10, 1885.

The President, Robert F. Weir, M.D., in the Chair.

CARCINOMA OF THE TONGUE.

Dr. H. P. Sands presented a man to show the result of an operation performed three weeks ago for carcinoma of the tongue. The patient was fifty-eight years of age, formerly a colonel in the English army, of excellent constitution and in robust health until six years ago, when he fell, and soon afterwards developed symptoms of spinal trouble, supposed to be locomotor ataxia. These consisted of shooting pains in the limbs, difficulty in passing urine, and visual disturbances. Four years ago the patient, who had long been an immoderate smoker, noticed a crack on the left side of the tongue, near the tip, which afterward developed into an ulcer two years ago; the ulcer began to extend rapidly, and some local applications were made without arresting the progress of the disease. When Dr. Sands first saw the patient, about a month ago, in consultation with Dr. R. A. Caldwell, of this city, there was well-marked cancerous ulceration of the left side of the tongue. The disease ex-

tended from a point about three-quarters of an inch behind the tip to within an inch of the epiglottis. The ulceration did not extend beyond the median line, but hardened tissue could be felt beneath the surface on the right side. There was no enlargement of the submaxillary lymphatic glands. The man's general health seemed to be good, and as he suffered from severe pain, profuse salivation, and difficulty in articulation and mastication, he was desirous that an operation should be performed. The result was very gratifying, and showed how quickly patients sometimes recovered from an operation usually regarded as formidable. The procedure followed in this case was one which Dr. Sands believed to be best. When the disease is confined to the tongue both lingual arteries were tied, as a preliminary step; the tongue was then seized with a volsellum forceps, and removed with a scissors as far back as the epiglottis. The preliminary ligatures were applied to the lingual arteries in the usual way in the digastric triangle. On the left side a branch of the lingual artery was also tied,—probably the dorsalis linguæ. The effect of tying these vessels was to render the operation nearly bloodless, so far as the tongue itself was concerned. There was a little bleeding from small vessels at the floor of the mouth. But all oozing was pretty well checked by pressure within a short time after the operation. Iodoform gauze (Wölfler's), containing a little resin, to make it adhere to the surface, was applied to the surface of the wounds in the mouth. The wounds made for ligation of the lingual arteries were sutured, except where a soluble drainage-tube was inserted, and healed by first intention. The patient was nourished by enemata during the first twenty-four hours, and was afterward fed through a stomach-tube introduced three times a day for a week. The mouth was first irrigated every two hours during the day with a solution of permanganate of potassium, half a drachm to a quart. The temperature at no time rose above 99° F., and at the end of a week the external wounds were firmly united, and convalescence was established. At the present time, three weeks after the operation, the wound in the mouth was almost completely healed, the remaining granulating surface not exceeding half an inch in diameter. The patient, entirely relieved of pain and salivation, was able to swallow with ease, and, notwithstanding the loss of his tongue, could be understood in conversation.

RADICAL CURE OF A LARGE CONGENITAL OMENTAL HERNIA BY EXTIRPATION.

The President presented a man, aged thirty-three, from whom he had removed, in May last, a mass of omentum weighing a pound and a half, which occupied the left side of the scrotum. The tumor had existed from early infancy, and its development had given rise to but little inconvenience. Its size, however, subjected the patient greatly to annoyance and mortification. Several years since an epididymitis from a urethral trouble occurred. With this a considerable acute hydrocele developed, and as it was then thought that the hernia was of the usual variety, and separate from the cavity of the tunica vaginalis, the scrotum was punctured and the fluid withdrawn. The relief was marked, and no reaction followed the operation; but it was evident, during the removal of the hernial mass last spring, that the trocar had invaded the sac of the congenital hernia at the operation under spray. In May the ordinary longitudinal incision was made; the omental mass was tied off in two sections close up to the internal ring. One of the ligatures, partially slipping, threatened considerable hemorrhage; but this was obviated by a firm grasp with the forceps and another ligature. After careful dissection from the cord, the peritoneal prolongation was tied *en masse* and divided, a drainage-tube inserted, the wound closed, and sublimate dressings applied. The patient was about ten days after the operation, and had no subsequent trouble. As a precautionary measure, demanded by the companies in which he was insured, he for a time wore a truss, which has now for some time been abandoned. There is no disposition to fresh protrusion, and the parts are solidly closed. The hernial mass was the largest which Dr. Weir had any knowledge of being removed in this manner.

Dr. Halsted then read a paper entitled,

THE DESCENT OF FEMORAL HERNIA,

which will appear in full in a subsequent number of The Medical News.

NEWS ITEMS.

The Royal Medical and Chirurgical Society of London held its annual meeting on March 2d, and a very satisfactory balance-sheet was presented. The annual report showed a larger number of Fellows than in any previous year, namely, 741; and a larger number of attendances at the meetings of the Society. A larger proportion also of those who had attended had taken part in the discussion, namely, 145 out of 632. The library also had increased by 520 volumes, and 3421 books had been lent during the year.—*British Medical Journal*, March 7, 1885.

The Cartwright Prize.—Essays in competition for the Cartwright Prize must be handed in to some member of the Committee on or before April 1, 1885.

The Committee consists of Robert Abbe, M.D., 32 East 20th Street; Walter Mendelson M.D., 209 West 46th Street; and R. W. Amidon, M.D., Chairman, 18 West 21st Street.

Louisville Medical College.—The Annual Commencement of the Louisville Medical College was held February 26. Sixty-three graduates received the degree of M.D.

Professor Karl Bardleben, of Jena, has been unanimously chosen editor of *Die Zeitschrift für Medicine und Naturwissenschaften*, the organ of the Medico-Scientific Society.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE WEEK ENDING MARCH 21, 1885.

Sawtelle, H. W., *Surgeon*.—Detailed as Chairman of Board for physical examination of officer of the Revenue Marine-Service, March 17, 1885.

Armstrong, S. T., *Passed Assistant Surgeon*.—Granted leave of absence for thirty days, March 16, 1885.

Ames, R. P. M., *Passed Assistant Surgeon*.—Detailed as Recorder of Board for physical examination of officer of the Revenue Marine-Service, March 17, 1885.

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ORIGINAL LECTURES.

GULSTONIAN LECTURES.
ON MALIGNANT ENDOCARDITIS.

Delivered at the Royal College of Physicians, London, on Thursday, March 5, 1885.

BY WILLIAM OSLER, M.D.,

PROFESSOR OF CLINICAL MEDICINE AT THE UNIVERSITY OF PENNSYLVANIA, PHILADELPHIA.

LECTURE III.

MR. PRESIDENT AND GENTLEMEN: Few diseases present greater difficulties in the way of *diagnosis* than malignant endocarditis, difficulties which in many cases are practically insurmountable. It is no disparagement to the many skilled physicians who have put their cases upon record to say that, in fully one-half of them the diagnosis was made *post mortem*. In spite, too, of able memoirs in the journals, the disease has not been much known, and it is only of late years that the text-books have contained chapters upon it. The protean character of the malady, the latency of the cardiac symptoms, and the close simulation of other disorders, combine to render the detection peculiarly difficult.

Diagnosis.—In the group of cardiac cases in which the disease attacks a patient the subject of chronic valvulitis, the matter is usually easy enough. The existence of fever of an irregular type, and the occurrence of embolism, generally suffice to make the case clear. It must be remembered that simple warty endocarditis not unfrequently attacks sclerotic valves, and may be accompanied by slight fever. Of course, in chronic heart disease, irregular pyrexia may arise from other causes—local suppuration, cellulitis, etc.—which must be excluded.

In rheumatic fever, a disease in which the heart is more systematically examined than in any other, if with the occurrence of a murmur the symptoms become aggravated, and assume a typhoid or pyæmic type, the recognition of the complication should be easy. The onset of severe head-symptoms in rheumatism—delirium, with high fever and coma—requires to be carefully distinguished. Fortunately, the simple endocarditis so common in this disease rarely, as I shall have occasion to show, passes into the grave form.

In pneumonia, a prolongation of the course, with the supervention of typhoid or septic symptoms, should lead to a very careful examination of the heart.

The greatest difficulty is met with in those acute cases resembling the malignant forms of the fevers; here the affection may simulate typhoid, typhus, cerebro-spinal meningitis, or even hemorrhagic smallpox. Even with the detection of a heart-murmur, the judgment may have to be suspended, and many cases die with the general symptoms of profound blood-poisoning, before the development of any special features upon which a diagnosis could be based.

From typhoid fever, with which the cases are most often confounded, the mode of onset, the pyrexia, and the abdominal symptoms offer the chief points for discrimination. The onset of severe endocarditis is more abrupt, not so often preceded by a period of failing health and progressive weakness. In a large number of cases, cardiac pain or oppression and shortness of breath are mentioned as early symptoms. The fever rarely presents, in the early days of the disease, the regularity of typhoid, and from the outset may be very high. A sudden fall to the normal, or even below, may occur; indeed, irregular pyrexia is one of the most important diagnostic signs. The combination of diarrhœa, abdominal distention, and a rose-colored eruption, points strongly to typhoid fever. The rash, when present, is usually petechial, a rare circumstance in typhoid fever. The development under observation of pronounced murmurs, particularly of aortic and regurgitant, is most suggestive of malignant endocarditis, and the occurrence of emboli would be a positive confirmation. Rigors rarely occur in typhoid fever, while they are common in endocarditis. It is well, however, to bear in mind that, in many of the most severe cases, death may occur, as in any of the infective disorders, without the development of the special symptoms necessary for a diagnosis.

Many of the cases present the clinical features of pyæmia, a condition which may actually exist, dependent upon the ulcerative lesions on the valves; and here the diagnosis lies between an ordinary septic infection from a wound, or auto-infection from a primary endocardial inflammation.

It is interesting to note the similarity of those cases of acute endocarditis in which death occurs in a few days, without the development of any other than the valvular lesion, with those instances of rapidly fatal acute periostitis and necrosis, and also with those cases of malignant septic infection from a slight external lesion.

It seems strange that difficulties should arise in the diagnosis between malaria and malignant endocarditis, but the records of cases plainly show that for weeks or months a condition of intermittent pyrexia may occur, simulating every type of ague. The paroxysms in regularity, in order of sequence, and in the accompanying general conditions, may fulfil every condition of a quotidian or tertian intermittent; and the development of cardiac symptoms, with breaking of the pyrexial type, may alone determine the nature of the case.

Etiology and Pathology.—With a view of obtaining data upon which to base statements regarding the etiological relations of malignant endocarditis, I have gone over the records of 209 cases. As before stated, 37 of these occurred in connection with pyæmia, traumatic or puerperal. Doubtless this number could have been very greatly increased had I examined files of special gynecological and surgical journals, but my investigation did not lie so much in these directions. In 45 cases, there was no record of any previous disease

which could be taken into account as possibly connected with the endocarditis. In 127 cases, there was a history of past or existing disease with which the cardiac trouble could, with a greater or less degree of probability, be associated.

One or two general considerations may first be mentioned. The period of middle life gives the greatest number of cases. Young children are rarely the victims; there were only three or four instances under 10 years of age, and not many more over 50. The cases occurring in connection with rheumatism presented an average younger age than the others; there were 36 instances under 30 years of age, out of 51 cases in which this point was mentioned.

Of 160 cases (exclusive of traumatic and puerperal), 99 were in males, and 61 in females.

Persons debilitated by exposure or other causes, or addicted to drink, seem particularly liable to be attacked; and in such subjects, during the course of an acute disorder, this complication is much more likely to arise.

As has been already referred to, the existence of sclerotic valvulitis is a very important factor in the etiology of severe endocarditis, a very considerable proportion of the cases occurring in individuals whose valves are thickened and crumpled from chronic inflammation.

The existence of a primary, protopathic endocarditis must, I think, be allowed. In 45 cases, no history could be obtained of rheumatism or other affections with which endocarditis is known to be associated. Many of these cases were of the most malignant type; in 10, death took place within a week. A specific statement of the absence of rheumatism was generally given. The onset was usually like that of a specific fever, headache, vomiting, rigors, pyrexia, and often early delirium and unconsciousness. The very acute cases resemble severe typhoid or typhus, but, when more prolonged, a pyæmic condition may develop. In a number of these cases the disease had attacked persons with chronic valve disease, some while under treatment, others in whom the compensation was complete and the old lesions only detected at the necropsy. In 5 instances, the ulcerative process attacked aortic valves, two of which were fused, and had undergone the fibroid changes always associated with this malformation.

In 127 of the cases, the endocarditis was associated with other diseases, some of the most important of which we shall now proceed to consider.

Rheumatism.—Since Bouillaud called special attention to the frequency of cardiac complications in this disease, its importance in the etiology of endocarditis has been universally recognized. And, as regards the simple form of endocarditis, the general statements are quite true, but, fortunately, the graver and fatal form is much less common, much less, I think, than is usually supposed. In 53 cases, there was a history of rheumatism, past or present. I included every case in which there had been the record of an attack, recent or remote. In only 24 did the symptoms of severe endocarditis arise during the progress of the acute or subacute disease. In 29 cases, there was simply a history of rheumatism, often years before, and no mention of the occurrence of joint troubles at the time of the development of the endocarditis. Dr. Ogle called attention to the fact that ulcerative endocarditis occurred very often in persons in whom no rheumatic history could be traced. Of 21 cases which he reported, some of which were probably atheromatous, in only 3 was rheumatism mentioned. In only 3 also of the Montreal cases was there any positive history of rheumatism, either before or during the attacks. The following case, under the care of Dr. Ross, is a good example of the mode of onset:

B. M., aged 22, a healthy girl until three weeks before her admission to hospital, on January 4th. At that time she was attacked with rheumatism of the wrists and ankles, not very severe, and she did not receive any treatment. A week from the beginning of the attack, she began to have chills, two or three a day, and she became feverish. During the next week she became worse, had occasional chills, not delirious; was brought to hospital on the 4th, in a very low state. On the 5th there was delirium and incoherence. Pulse 130; temperature 100°. Double murmur up and down sternum; joint-troubles not evident. On the 6th, 7th, and 8th, she remained in the same state, no chills; temperature ranged from 100° to 102°. On the 9th she was more restless. On the 11th a gray membrane was noticed on the fauces. On the 12th, the membrane in the throat had extended, and covered the soft palate. Temperature 103°. On the 13th she died suddenly. The necropsy revealed a large deep ulcer at the aortic ring, nearly destroying one segment, and penetrating deeply between the auricle and the left ventricle. There were small infarcts in the brain, extensive recent diphtheria of fauces.

In a larger number than in any other group, sclerotic valves were found, with the existence of which the past rheumatism could, in many instances, be connected. A primary rheumatic endocarditis was recognized by Latham, also by Graves and Stokes, and it is quite possible that some of the cases which I have grouped as protopathic represented instances of the kind in which, if life had been prolonged, joint-troubles might have supervened.

Cases of acute rheumatism sometimes occur in which there may be multiple miliary abscesses,[1] and a pyæmic condition similar to the case just narrated, but without the presence of endocarditis. Micrococci have been found in these abscesses, and the cases resemble those rare instances of idiopathic pyæmia. It is worthy of observation that a skin-eruption was most frequently noted in connection with the rheumatic cases, generally an erythema. In a case of Dr. Kirkes,[2] it was observed on both face and hands. The occasional presence of a scarlet rash in rheumatism[3], and in puerperal fever[4], has long been recognized.

In chorea, with which simple endocarditis is so often associated, the malignant form very rarely supervenes.

Pneumonia, as Bouillaud pointed out, is not unfrequently complicated with endocarditis, but the important part which it plays in the etiology of the malignant disease has not been generally recognized. In the cases I have reviewed, it stands at the head of the list of diseases in which secondary endocarditis of a severe

[1] Fleischauer, Virchow's Archiv., Band lxxii.
[2] British Medical Journal, 1863, vol. ii.
[3] Peter, Union Médicale, 1870.
[4] Hicks, Obstetrical Society's Transactions, vol. xii.

nature develops, 54 instances having been noted, rather more than 25 per cent. of the total number of cases. For this I was quite prepared by our Montreal experience, for, in 11 of the 23 cases, the attack was associated with pneumonia. Of the occurrence of acute endocarditis in this disease, the statements are somewhat diverse. Bouillaud thought that, in a third or fourth of the cases in which there was left-sided pneumonia, there was inflammation of the serous membranes of the heart. Grisolle, in his classical work on pneumonia, states, on the contrary, that it is a rare complication, and this would certainly appear to be the conclusion of the Committee for Collective Investigation; for in the report upon 1000 cases, endocarditis is only once mentioned. My experience at the Montreal General Hospital is very different. I have notes of 103 necropsies of cases of lobar pneumonia, and the occurrence of acute endocarditis is noted in 16 cases, over 15 per cent. Of these cases, 11 were of the malignant form. An analysis of these shows that, in 6, the left lung was involved; in 5, the right; in 4, the upper lobe was affected; in 7, the lower. In 9 of the cases there was pericarditis; in 5 of the 11 cases, there was suppurative cortical meningitis. In the 54 cases which I have reviewed, in 36 the lung affected was mentioned, and in 26 the affection was on the right side, and in only 10 on the left; figures which are opposed to the statement of Bouillaud, that it is in left-sided pneumonia that endocardial complication most frequently supervenes. In 15 cases, acute meningitis is mentioned, and, in one instance, the meninges of the spinal cord were also affected. The aortic valves seem more often involved than the mitral. In 17 instances, there were old sclerotic changes in the valves.

The clinical features of several cases in which the endocarditis came on during pneumonia have already been given. In many of them, as in the girl, aged 29, referred to in the second lecture, the patients are brought to hospital unconscious, and die within a few few days, with symptoms of a grave cerebral disorder. In others, there is a history of ordinary pneumonia, and the case may pursue the usual course, and defervescence take place, when, in a day or so, fever of an irregular type recurs, and typhoid or pyæmic symptoms appear. The majority of the cases are of this kind. Again, some instances occur in connection with injuries, and the patient succumbs to a lobar pneumonia and endocarditis unconnected with any sepsis. Two of the Montreal cases were of this kind. In three or four cases, there were rheumatic symptoms preceding or accompanying the pneumonia, as in a case of Dr. Musser's, the remarkable temperature-chart of which is here shown.

Elderly persons were more often attacked than in the other groups. There were ten individuals over fifty years of age. In the Montreal cases three of the patients had had pneumonia before; in one it was the third attack, and in every one of them there was a history of either drinking habits or previous bad health. In some cases, the pneumonia had partially or entirely resolved at the time of death, in others there was red, or, more frequently, gray hepatization.

The relation of the meningitis to the pneumonia and the endocarditis is particularly interesting. The occasional occurrence of this complication in pneumonia has been referred to by many writers, particularly Grisolle, Huguenin,[1] and Greenfield.[2] In the 105 cases I met with it in eight instances, in five of which there was also endocarditis. The frequency of the association of these two conditions in pneumonia is illustrated by the figures already given; of twenty-five instances of meningitis in malignant endocarditis, fifteen cases occurred in pneumonia. In all the specimens I have examined, there were micrococci in the exudation, and in three cases many of the capillaries and small arteries were filled with them; and its seems natural, where the endocardium is involved, to attribute the process to embolism from the valves. But the occurrence of an identical cortical meningitis without any valvulitis shows that it may be due to other causes than the endocarditis. As Huguenin suggests, it may he dependent upon the presence in the blood of infective material derived from the infiltrated lung tissue.

In connection with these secondary or consecutive inflammations in pneumonia, it is interesting to call to mind the not unfrequent occurrence of pericarditis, and of croupous inflammation of the gastro-intestinal canal. Dr. Bristowe some years ago noted the frequent complication of croupous colitis; and, in 103 necropsies, I have met with this complication in five instances; and in one there was extensive croupous or membranous gastritis.

Diphtheria is rarely complicated with endocarditis, and I have been able to find only two or three instances in which severe symptoms were present; yet in some works endocarditis is stated to be not an uncommon sequence. Labadie-Lagrave[3] regards it as such; but it is probable that what he described as vegetations are only Albini's little nodules, the remnants of fœtal structures. In 108 necropsies in diphtheria Telamon[4] did not meet with a single case of endocarditis; and my experience has been the same in thirty post-mortem examinations, many of which were in adults.

In *dysentery* a few cases have occurred. Litten[5] has recorded an instance in which there was extensive ulceration of the aortic valves; and one of the Montreal cases occurred in connection with acute colitis.

In the *eruptive fevers* grave endocarditis occasionally develops—in typhoid, in scarlet fever, and in variola; but in the cases I have analyzed these diseases appear of very trivial etiological significance.

In *ague*, as Lancereaux[6] first pointed out, simple or severe endocarditis may develop. In some of these cases, as in the remarkable one reported by Dr. Bristowe, to which I referred in the second lecture, the paroxysms of true intermittent, and those of the ulcerative endocarditis, seem to run the one into the other.[7] In most of the cases there has been only a history of severe ague, and the endocarditis has followed repeated attacks. Dr. Greenhow[8] has reported a very instructive case of the kind.

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[1] Ziemssen's Encyclopædia, Band xii.

[2] St. Thomas's Hospital Reports, 1878.

[3] Bull. Soc. d'Anatomie, 1877.

[4] Progrès Médicale, 1879. [5] Charité Annalen, iii.

[6] Gazette Médicale, 1862: and Archives Générales, 1873.

[7] Dr. Bristowe informs me that, in the case referred to, he is inclined to regard the intermittent pyrexia as dependent from the outset upon the endocarditis, and not associated with malaria.

[8] Path. Soc. Transactions, vol. xxx.

Dr. Goodhart[1] makes the interesting suggestion that ulcerative endocarditis is more frequently met with at periods in which scarlet fever, erysipelas, pyæmia, and diphtheria prevail. The Guy's Hospital records certainly seem to show that the cases appear in groups pretty close together, and at a time when the diseases mentioned are epidemic. In Montreal we have had occasionally a "run" of cases together, but I have not noticed the connection referred to by Dr. Goodhart.

Pathology.—I approach a discussion of the pathology of malignant endocarditis with some trepidation, partly due to a sense of incompetency, and partly from a feeling that the time is scarcely ripe for a satisfactory presentation of the subject; and yet there are signs which make one hopeful; and it would not be rash to predict that the knowledge twenty-five years hence will be as much in advance of to-day as our information on the subject is of the time when Dr. Kirkes made his memorable investigations. A serious difficulty exists in the circumstance that we have not to deal with a single form of disease—an entity; but rather with a special manifestation in many affections—affections, too, the pathology of which is, in most instances, by no means clear. No one can doubt that the more severe cases of endocarditis present in a typical mode all the features of those diseases which we call infective, and believe to be caused by the absorption of some poison, the development of which in the blood and tissues profoundly disturbs, and finally annihilates, function.

Briefly stated, the theory of acute endocarditis which at present prevails, and the only one to which I shall refer, is, that it is in all its forms, an essentially mycotic process; the local and constitutional effects being produced by the growth on the valves, and the transference to distant parts of microbes, which vary in character with the disease in which it develops. This very attractive theory can be adjusted to meet every requirement of the case, though as yet lacking certain of those substantial data so necessary for full acceptance, but which, having been furnished of late years in other diseases, we may reasonably hope will in time also be forthcoming for this.

Let us see, first, what has been done, and how far the facts at our disposal seem favorable to this view. The constant presence of microörganisms seems undoubted; only, in the simple acute form, we need more careful observations with our improved methods. Some good observers have not been able to find them;[2] others declare them to be invariable constituents of the verrucose outgrowths.[3] The careful application of such a satisfactory mode of staining as recommended by Gramm should readily determine this question. A study of the endocarditis of puerperal and traumatic pyæmia will be most likely to yield important information, as here the conditions are simpler, and the relation of the microörganisms can more readily be determined. The cardiac complication in these cases is only part of a general process, excited by a local lesion, and is entirely secondary and subsidiary. Micrococci arranged in chaplets are constant constituents of the vegetations, and, in the case of puerperal fever, they have a close resemblance to those found in the peritoneal exudation. The well-known observations of Koch, Ogston, and others have shown the relation of microbes to pyæmia; and the recent culture-experiments of Rosenbach[1] go so far toward demonstration for man what Koch had previously done in the case of the pyæmia of the mouse. In these cases, a study of the modes of growth of the micrococci of the endocarditis, and of the effects of inoculations, and a comparison of these with similar observations in the organisms of the original lesion, or of the metastatic foci, should yield results of great value in the interpretation of the phenomena of secondary endocarditis.

In rheumatic fever, we are still too far from any accurate knowledge of its intimate pathology to dwell on the possible connection of any organism peculiar to it, and the endocarditis so common in its course. Klebs[2] distinguishes the microbes occurring in rheumatic cases from those of the septic forms.

In pneumonia, micrococci undoubtedly abound in the exudation of the air-cells, and their mode of growth in gelatine is peculiar, but the numerous experiments on artificial production are not yet conclusive. The evidence is accumulating which places pneumonia among the infective disorders; and it certainly is a seductive view to take of its pathology, to regard the local pulmonary lesion as excited by the growth of micrococci in the air-cells, and the various consecutive inflammations, the endocarditis and pericarditis, the pleurisy, the meningitis, the membranous gastritis or colitis, as due to the penetration of the organisms to deeper parts, and their local development under conditions dependent on the state of the tissues. The processes are all of the character described as croupous, and have as a common feature the presence of micrococci in a coaguable exudation. We have still, however, to settle the identity of the organisms of the air-cells with those of the consecutive inflammations; but we may reasonably hope ere long to have some positive data from investigations in this disease, which, more than any other, offers favorable opportunities for the solution of these problems.

In diphtheria, as we have seen, mycotic endocarditis rarely occurs; and, in a few instances, observed in association with scarlatina, variola, erysipelas, and other affections, we lack positive information with regard to the characters of the microörganisms.

In the way of experimental investigation of the properties of the micrococci, not much has been done of a satisfactory nature. Heiberg[3] placed bits of vegetations from a puerperal case beneath the skin and in the peritoneal cavity of a rabbit without effect. Eberth[4] and Birch-Hirschfeld[5] have produced panophthalmos in the rabbit by inoculating the cornea; and I was able to produce well-marked mycotic keratitis in the same animals with fresh material from the valves of two cases. H. Young, of Manchester, inoculated rabbits with pus from

[1] Ibid., vol. xxxiii.

[2] Orth, Lehrbuch der Speciellen Pathologischen Anatomie, Lief. i., 1883.

[3] Klebs, Archiv für Exper. Pathologie, Bd. iv.; Köster, Virchow's Archiv, Bd. lxxii.

[1] Microörganisms bei den Wund-Infections, Krankheiten des Menschen, Wiesbaden, 1884.

[2] Archiv für Experiment. Pathologie, Bd. ix.

[3] Virchow's Archiv, Bd. lvi.

[4] Ibid., Bd. lvii.

[5] Archiv der Heilkunde, Bd. xvii.

an abscess in ulcerative endocarditis, and was able to detect micrococci in the blood.

No conclusive culture-experiments have yet been made. Grancher[1] has cultivated a microbe from the blood, taken during life with all necessary precautions, but apparently not in series, and no inoculations of animals were made. Cornil[2] has made cultures on gelatine, but apparently no special results have been reached.

How do the micrococci reach the valves? In cases of puerperal and traumatic septicæmia, the external lesion is undoubtedly the source of infection which is conveyed through the venous system; and, in these cases, it will be remembered that the right heart is most often affected. In other instances, where the skin is unbroken, we must suppose them to gain access by the lungs or intestines, most probably the former; and, in these instances, the left heart is the chief seat of the mycosis. Whether they reach the valve with the general blood-current, as Klebs supposes, or through the coronary arteries, as Köster holds, cannot be considered settled; but, from the position of the early vegetations in a non-vascular region of the valves, and from the fact already referred to, that colonies of micrococci can be seen directly upon the endocardium, it seems probable that Klebs's view is the correct one. He suggests, in explanation of the fact that the lines of closure of the valves are the usual seat of the process, that the micrococci, circulating with the blood, are here closely pressed into the endothelium by the firm apposition of the flaps. Whether or not in any given case endocarditis will arise, depends greatly on the condition of the valve tissue. In a case of pneumonia or other disease—such as pyæmia—in which we may suppose microbes circulating in the blood, the endothelium of normal valves may be able to resist their invasion, or, even if they do lodge and penetrate, the conditions may not be favorable for their growth; but, where an individual is debilitated, and the tissue-tone lowered, or if, as so often seems the case, the valves be diseased, then the micrococci find a suitable nidus, and excite, by their growth, an endocarditis which may be of a malignant type. As Dr. Goodhart suggests,[3] patients with chronic sclerotic valves are walking mushroom beds, in common times without spawn, but in periods of epidemics taking in germs by various channels, which fertilize in some cases into ulcerative endocarditis; in others, to suppurative processes. Certainly, on paper, so to speak, the view which I have thus imperfectly and hurriedly discussed seems plausible enough, and meets the requirements of the case fairly well; but let us, in conclusion, follow an important rule too much neglected, and get a definite outline for our ignorance. In the first place, we do not yet know, with sufficient accuracy, the frequency of the occurrence of microbes in simple endocarditis. Are they constantly present, or only in forms associated with special diseases? Secondly, we want ull information of the various forms of microörganisms occurring in secondary endocarditis, and of their relation to the microbes assumed to be the cause of the primary disease. And, thirdly, we are only at the threshold of inquiries relating to the culture of these organisms, to the macroscopic characters of their growth, and to the possible experimental production of endocarditis.

I cannot conclude without thanking my late colleagues at the Montreal General Hospital, by whose kindness I have had command, not only of the pathological, but also much of the clinical, material upon which these lectures were based; and lastly, sir, you will allow me to express my sincere regrets that my efforts have not been more worthy of such an intensely interesting subject, and of the distinguished audience which I have had the honor of addressing.

[1] Journal des Médecine de Paris, December 20, 1884.
[2] L'Abeille Médicale, December 22, 1884.
[3] Loc. cit.

ORIGINAL ARTICLES.

SHOULD ARTIFICIAL ANUS BE FORMED WHEN A PORTION OF INTESTINE IS RESECTED FOR GUNSHOT WOUND?

By WILLIAM A. BYRD, M.D.,
of Quincy, Illinois.

In a letter which is published in The Medical News of February 28, 1885, "J. C. R." takes exception to the conclusions arrived at by The News in an editorial in its issue of February 21st, where the doctrine of closing the wounds in the intestine and then dropping into the abdomen is advocated. This editorial does not agree fully with the editorial in the issue of February 2, 1884, entitled "Radical Cure of Artificial Anus," in which the idea of making a Dupuytren's operation for the closure of artificial anus, instead of exsecting a portion of intestine and dropping it back into the abdominal cavity, is ably upheld. Now it may be very properly contended that excising a portion of intestine for gunshot wound and for the cure of artificial anus are two very different things. The gunshot wound is accompanied by great shock and extravasation of fecal matter in the peritoneal cavity, which causes an amount of irritation very liable to be followed by suppurative inflammation, even if the cavity is well cleaned out. These two conditions render the operation of closing the intestine for gunshot wound much more dangerous than the operation for curing artificial anus by excision. The very fact of the added complications and dangers should lead the surgeon to adopt the method fraught with the least danger, and that method, I believe to be the one where the artificial anus is formed. By that method the gases that form in the intestine have an opportunity to escape and not press upon the lungs and heart by upward distention as well as distend and tear out the stitches, permitting repetition of the extravasation. The ends of the bowel may be brought together in such a manner as to allow of spontaneous cure of the small artificial anus that is left to permit escape of the gas. For the method, I will refer the reader to my "Address on Surgery" delivered before the American Medical Association, in 1882, at the meeting in St. Paul, and to a paper by me on "The radical cure of artificial anus" which appeared in The News for April 12, 1884.

It matters not for what purpose a resection of intestine is made; to my mind, the same general

principles must govern the treatment. J. C. R. refers to a footnote in the *British Medical Journal* Jan. 24, 1885, p. 173, where Mr. W. Whitehead refers to a statement made by Sir Spencer Wells in his Inaugural Address upon the Revival of Ovariotomy "(*British Medical Journal*, November 15, 1884, p. 950), in which he states that, in a recent paper by Reichel, 121 cases of resection of intestine have been collected, the conclusions being. that the two ends of the bowel should not be united at the time of resection, but that an artificial anus should be established. The article to which the above is a note is entitled "Excision of the Cæcum for Epithelioma: Death on the Thirteenth Day." In the body of the article is this paragraph, of which the note is explanatory :

"The second point to decide was whether or not, after the removal of the growth, it was desirable to unite the divided ends of the bowel together. The desire to attempt the latter course was naturally great; but, the main object being kept strictly in view, it was not considered warrantable to subject the patient to such additional risk, especially in an operation which only holds a tentative position in surgery. Whilst admitting the wonderful success that has attended the operation of enterorrhaphy, it cannot at present be regarded as an established precedent free from objections and disadvantages. The danger of non-union, and the contingency, possibly remote, of future stricture, are risks which do not admit of being lightly passed over. Further, by bringing the two ends of the bowel outside, there always remained the opportunity, should it ever be considered desirable, of uniting them by a subsequent operation."

Sir Spencer Wells, in commenting upon Reichel's statistics, says: "This can be closed by a subsequent operation. You will probably soon see a report of a case, not yet published, where Mr. Jessop, of Leeds, cured a fecal fistula by separating the injured intestine from the abdominal wall, and uniting the upper and lower parts of the gut by suture." The two statements seem somewhat contradictory, but I am led to think he favors the formation of artificial anus in cases of resection of intestine.

Mr. Bryant's opinions, as given in the Harveian lectures, published in the *British Medical Journal*, in November and December, 1884, are rather indefinitely stated. But he expresses himself more positively in the report on "colectomy" published in the *Transactions of the Royal Medical and Chirurgical Society*, for 1882.

Mr. Bryant requested me when in London to explain to him my method for closing artificial anus. The operation is very simple to demonstrate but very hard to describe as to be easily understood, but I succeeded in making it clear to him on this occasion. He spoke of the frequency of stricture at the sigmoid flexure, and stated that the next case he had he would make colectomy with artifical anus, and he did so, as the report shows, in the early part of 1882. In the Harveian Lectures he has not changed his opinion, though I do not know whether or no he has gone further and adopted my method for the closure of the artificial anus after it has served its purpose of saving the life of the patient.

Mr. Frederick Treves, in a recent very excellent work on "Intestinal Obstruction," says:

"It may be that the operation of suturing the intestine immediately after the resection may be improved as surgery advances, but, as the matter at present stands, everything points in favor of the operation that demands the establishment of a temporary artificial anus.

"The comparative value of those two procedures has been fully discussed by Reichel in the monograph above alluded to, and this surgeon has shown clearly that the chief element of success in resection operations depends upon the formation of a temporary fecal fistula.

"It must be borne in mind that the patients who are subjects of resection operations are suffering from obstruction, and often from acute obstruction. Their lives are threatened by reason of this obstruction, and any operation performed should give immediate and entire relief to the distended bowel above the site of the occlusion. In the second of the two methods above described this relief is afforded. The engorged intestine can empty itself at its leisure. If, however, the divided ends of the bowel be at once united after the excision of the diseased segment, the distention, to a great extent, remains, the obstruction is but imperfectly relieved, the gut at the suture line is paralyzed, peristaltic movements must be interrupted at this point, and free circulation of the intestinal contents is thus rendered practically impossible. The fact must not be lost sight of, that in the resection operations the relief of an obstructed intestine is of more immediate moment as regards the patient's life than the removal of an epithelioma or neoplasm from the walls of the bowel.

"Then, again, the operation requiring immediate suturing of the intestine is long and tedious, and the state of the patient upon whom these operations are performed is usually such as to render a prolonged narcosis most undesirable and most dangerous. The procedure that postpones the suturing of the bowel to a future period is readily performed, and, indeed, is almost as simple as an ordinary enterotomy or colotomy.

"In all resection proceedings there is a great risk of death from fecal extravasation, and it is needless to point out that this risk is infinitely reduced by a perfect evacuation of the bowel above the obstruction.

"In many examples of resection, especially when undertaken for gangrene, the bowel is not in condition to insure sound and perfect healing. For the success of the primary suture operation this ready healing is essential, and it will be obvious that in excising the bowel, with this fact before him, the surgeon would be apt to remove too much.

"Owing to the disturbance of the mesentery the margins of the divided intestine are apt to slough a little. In the latter of the two procedures now under notice, this would prove a matter of no moment; in the former it would probably lead to fecal extravasation and death.

"It may be said, therefore, that in resecting the intestine a temporary artificial anus should always be established, and the suturing of the bowel left to a future period.

"To this rule one exception may be made. In cases of resection of small intestine high up in the jejunum, the divided ends should be at once brought together with sutures whenever the state of the intestine will permit. The mortality attending fecal fistulæ in the upper part of the jejunum is well known."

No apology is necessary for so lengthy a quotation, as the whole of it is applicable to the subject under consideration. There may be those who can

see no connection between excision of intestine for gangrene and for gunshot wound, but the ball in its passage injures the parts so as to cause gangrene to ensue at a more or less remote period from the receipt of the injury. And the bowel at the line of union would not be in fit condition for the passage through it of any thing like large masses of fecal matter. Any one who has had much experience with gunshot wounds knows well that the amount of shock, with paralysis of tissues in the immediate vicinity of the course of the bullet cannot well be known by sight. Tissue that has no appearance whatever of having been bruised frequently dies and sloughs out.

The pleasant experience of Drs. R. A. Kinloch and William T. Bull should not deter operators from viewing the other side. Then there are other cases of recovery from operations for excision of bowel for conditions somewhat analogous to those of gunshot wound. One of the most notable is the excision of two inches of intestine for wounds inflicted by a stab with a dull knife, the operator and reporter being Dr. Joseph Grindon of St. Louis. (*Courier of Medicine*, Oct. 1884, pp. 220, *et seq.*)

All who heard the Address on Surgery before the American Medical Association last year by Dr. Charles T. Parkes, of Chicago (Medical News, May 17, 1884, p. 563), must have been delighted with the care bestowed upon and the richness of the drawings used to illustrate the subject. He evidently believes in bringing the ends of the divided intestine together and then dropping it back into the abdominal cavity, as the following shows:

"Two cases of the series were subjected to the expectant treatment. These cases were chosen because their injuries did not seem very severe; the hemorrhage was not great and the prostration not extreme. Both died: the first in one day, the other lived five days. Post-mortem examination showed extensive extravasation of the contents of the bowel and septic peritonitis. In one case an attempt was made to establish an artificial anus. The wounded intestine was resected and the ends fastened to the edges of the abdominal incision. The animal died of septic peritonitis in three days. This trial was made early in the experimentation, before any definite plan of procedure had been settled upon. This is the only experiment that has given rise to any regret, for I feel satisfied that with a fair junction of the bowel and a clean abdomen, the animal would have been saved.

There is no reason given why this case should have been attacked with septic peritonitis, unless we are to infer that the abdomen was not clean, and I believe the trouble was in not having a sufficiently free opening in the abdominal wall, the intestine thus being left partially strictured at the point of exit. In making the artificial anus after resection of intestine, all the precautions should be taken that would characterize the same operation when the two ends of the divided bowel are united and dropped into the abdominal cavity. The abdomen should have the "*peritoneal toilette*" as carefully performed and every bleeding point should be just as assiduously looked after.

After a bullet has passed into the abdomen, no surgeon can know the extent of injury until the abdomen is laid open and the bowels are carefully examined. Small wounds may with safety be united at their edges, with the peritoneal surfaces brought in contact, providing the injury is not at the omental border, at which place Dr. Parkes has shown the greatest danger exists of ulceration, perforation, and attendant extravasation.

I have arrived at my conclusions as to the advisability of forming artificial anus more from my own experience than perhaps from what I have read, but the more I have read the more thoroughly am I convinced that it is a procedure that will receive more attention in the future. None of my cases have been of gunshot wound, but the same pathological condition obtains in all analogous operations in the abdominal cavity. Ephraim McDowell struck the keynote, which untouched, there would be no discussion now as to the proper mode of treating wounds of the intestine. We would still be trusting to the Lord entirely when a man got shot in the abdomen until the hidden trouble required his burial.

I have made artificial anus six times; twice for gangrenous strangulated hernia; in one I took off eight inches of intestine and a large piece of omentum, in the other three inches of intestine, and made an opening at a different point from the place of strangulation to bring the bowel out; in both foreign matter got into the abdomen, both got well, both were operated upon for the cure of the artificial anus, and both were cured and are yet living.

Twice I have formed artificial anus for adhesive obstruction; both got well of the trouble, one to die six or seven months after from albuminuria, and the other between two and three months after the operation from pneumonia.

Twice I have made artificial anus for congenital absence of the anus; in one, left lumbo-colotomy was performed, and the patient was killed by a foolish use of carbolic acid about three months afterwards for antiseptic purposes. The attending physician could not be induced to believe the rectum would absorb anything detrimental to health from a solution of carbolic acid. The other patient who had the coccyx excised, and the bowel completely detached and brought down into the opening, recovered, and is in excellent health.

Another case I saw July 5, 1879. A young man returning to his home in Mendon, Illinois, had gotten into a drunken row on the cars and had been stabbed in the side with a pocket-knife, the blade of which entered the ilium. Dr. C. J. Tibbets, a very intelligent dentist of this city being near him secured the cut bowel, and having seen John Loyns, the patient on whom I had exsected eight inches of intestine, fastened this cut end into the wound in his side with sutures, and left him off the train, at Mendon, in the care of Dr. Peter Young. He was doing very well when I saw him, except that there was a good deal of undigested food passing through the wound. He continued to do well for a day or so when he sank from dysentery, July 9th. Dr. Young informed me that there was no peritonitis; that the gut had become firmly attached to the wound in the side; and that he would certainly have recovered had it not been for the depressing effects of the intoxication and the dysentery. None of these

was a case of gunshot wound, but they were similar in that in all the ends of the intestine were freed from the surroundings and could have been dropped if it been thought best; that is all, but those of imperforate anus.

Besides these, I have operated three times for abscesses where they have communicated with the lumen of the bowel; in all these cases there was recovery complete and permanent.

The artificial anus can be readily cured by the method referred to in the issue of The News for April 12, 1884, page 414. I believe all the cases operated upon by that method have recovered—at least, all that I have heard of. The last case in which I used it was that of a man from Kansas who had come to St. Louis to consult my friend, Dr. Louis Bauer, who kindly invited me to operate upon him, which I did a few weeks ago at the Pius Sister's Hospital. From a letter received from Dr. Bauer, to-day, I learn that the patient is doing very well. At a future time I shall gather together the reports of this operation and publish them in a more extended form.

416 Jersey Steeet, Quincy, Illinois,
March 6, 1885.

NOTES ON THE CLASSIFICATION, DIAGNOSIS AND TREATMENT OF THE STAGES OF CHRONIC NASAL INFLAMMATION.[1]

By JOHN N. MACKENZIE, M.D.,
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I propose to ask attention to a classification of chronic nasal inflammation, which is based on personal anatomical investigation and clinical experience, and which, I venture to think, will prove of practical value in the diagnosis and rational treatment of this affection.

The leading anatomical characteristic of chronic nasal inflammation resides in certain changes which the erectile bodies undergo. In the earlier stages of catarrhal inflammation there exists a peculiar excitability of these structures which causes sudden obstruction of one or both nostrils; later on is found a permanent swollen or puffy (dilated) condition of the erectile tissue, due to a subparalytic state of the intercellular walls with consequent dilatation of the erectile spaces. As the disease advances, there is a metamorphosis of the intercellular walls into dense fibrous tissue, which in contracting gradually obliterates these spaces, and causes finally atrophy of the erectile bodies.[2]

These changes in the erectile structures furnish the anatomical ground for the classification which I present for your consideration.

Classification of the Stages of Chronic Nasal Inflammation.

I. Simple Inflammatory (Rhinitis Simplex); divisible into periods of—

a. Irritability of erectile tissue.

β. Permanent dilatation of erectile tissue.

II. Hypertrophic (Rhinitis Hypertrophica); divisible into periods of—

a. Dilatation with hypertrophy.

β. Complete hypertrophy.

III. Atrophic (Rhinitis Cirrhotica); divisible in periods of—

a. Commencing atrophy.

β. Complete atrophy.

I. The first or *simple inflammatory stage* consists of two periods, the one characterized by *abnormal irritability* of the cavernous tissue, the other by *permanent dilatation* of the same.

a. *Period of irritability:* Characterized by increased irritability of the mucous surfaces, expressing itself chiefly in abnormal excitability of the erectile tissue, leading to sudden obstruction of one or both nostrils in the presence of changeable atmospheric conditions, when the individual assumes the recumbent position, as at night, or when under the influence of certain forms of excitement, and in some women at the menstrual period; in fine, when the individual is exposed to any of the exciting causes of coryza.

β. *Period of dilatation or permanent puffiness* of the erectile tissues (chronic coryza). As the result of the repeated erection of the cavernous tissues which occurs in the first stage, a paralytic or subparalytic state of the resilient and contractile elements of the walls of the erectile cells develops, leading to their permanent dilatation, recognizable by the eye as an engorged or *puffy* condition of the turbinated tissues, which may be distinguished from true hypertrophy by its collapsing under the probe, by the readiness with which it can be pressed against the external wall of the nostril, and by its diminution in bulk under various measures which produce reflex contraction, or emptying or depletion of the erectile spaces, such as the sudden application of cold, the use of cocaine, etc.

It is this subparalytic condition of the tissue, represented by the puffy character of the swelling, which is the *connecting link between the simple and hypertrophic stages.*

II. *The second or hypertrophic stage* is divisible into two periods, characterized respectively by *hypertrophy with dilatation*, and by *complete hypertrophy.*

a. *Period of hypertrophy with dilatation:* Characterized by commencing hypertrophy of intercellular connective-tissue walls of the erectile bodies with uniform puffiness of the tissue not especially involved in the fibrous process.

β. *Period of complete hypertrophy:* Characterized by more or less complete conversion of the affected portion of the tissue into a fibrous mass; swelling generally uniform, unyielding. This complete hypertrophy is most commonly met with on the posterior extremity of the inferior turbinated body, while its anterior extremity is generally puffy, dilated, doubtless from *collateral engorgement.*

III. *The third or atrophic stage* is separable into two periods, one of *commencing atrophy* and one of *complete disappearance of the erectile tissue.*

a. *Period of commencing atrophy:* Characterized by pronounced contraction of the newly formed

[1] Read Feb. 20, 1885, at the Clinical Society of Maryland.

[2] For further particulars concerning these changes, see article by the writer in The Medical News of Oct. 4, 1884, entitled, "Some Notes on the Pathology of Intranasal Inflammation."

fibrous bands, leading to irregular, nodular condition of the tissue more prominent in the posterior part of the inferior turbinated body and along its inferior border. This uneven appearance of the diseased portion not infrequently assumes the appearance of fibrous or papillomatous excrescences which may become detached, the process of detachment constituting one step in the future and complete atrophy of the tissue. The erectile spaces are inconspicuous and, in some places, entirely gone.

β. Period of complete atrophy (turbinated cirrhosis): Characterized by a rudimentary condition of the turbinated bodies, due to more or less complete disappearance of the erectile tissue.

II. In the natural state, the lumen of the nostril, or that space which exists between the turbinated bodies and the septum, is indicated by a slit, narrow and pointed above, and broader and more triangular below, which may be roughly compared to the slit in the sounding-board of a violin. When the turbinated tissues are made to contract artificially, obliteration of this slit occurs, the middle and inferior meatuses are represented by a broader, more pyramidal passage, and the middle and deeper portions of the nostrils come into view. The opening of the posterior nares into the retro-nasal cavity is then seen as a dark, clearly cut perpendicular line. In some persons, especially in those whose nasal chambers are naturally capacious, this linear opening may be seen without artificial contraction of the turbinated bodies.

The position of the turbinated bodies also varies within certain limits in the normal condition. When the inferior turbinated bone is "depressed," its anterior end appears as a rounded or, in some instances, bluntly pointed protuberance jutting out from the external anterior wall of the nostril, and closely in contact with the floor of the inferior meatus, from which it seemingly springs. When the bone is "elevated," there is a distinct, sometimes very broad, space between its inferior border and the nasal floor, the curve and dip of its anterior extremity is generally well defined, so that a *comma-shaped space* is left between it and the external wall. The inferior surface of the bone is not visible except in cases in which the long axis of the bone is directed upward and forward.[1] In some families, the inferior turbinated bone of one side is unusually developed without giving rise to serious inconvenience,[2] a fact which it is well to bear in mind in coming to a conclusion in diagnosis.

The rounded, bulging middle turbinated bone occupies the upper and outer portion of the anterior rhinoscopic picture. In the anterior portion of the nostril the space between it and the inferior varies greatly within the limits of health. Usually it presents a more or less pear, or inverted, comma-shaped appearance, with or without a comma-shaped space between it and the outer nasal wall.

It is only in very exceptional cases that the superior bone can be seen.

In the posterior rhinoscopic image the floor of the nostril is not visible in health, being hidden by the bulge of the palatal muscles, and the inferior edge of the lower turbinated bone is only visible in exceptional cases of the "elevated" form. Generally only the upper portion of its posterior extremity is visible. The posterior border of the septum is almost invariably straight, but just anterior to it, and within the nostril there is a slight bulging or cushion which represents the cavernous body located there.

The middle turbinated body generally projects inward as a pear shaped protuberance, whilst the superior is either scarcely visible, or appears as a rudimentary-looking tubercle or projection.

Only a small portion of the inferior meatus is visible as a small, dark, and three-cornered space. That portion of the middle meatus which is included between the turbinated bones is seen in the mirror as either a half moon or imperfectly defined S-shaped slit. The irregular spaces between the bones are continuous with the space common to the three meatuses, and which appears as a dark chamber in the rhinoscopic image.

The color of the mucous membrane in different individuals and in the same individual at different periods varies within the limits of perfect health. It may be said, in general, that it is of a pale reddish hue, more pronounced in the area covered by erectile tissue. In the posterior rhinoscopic picture, the color of the membrane appears of a darker hue, the parts being thrown more or less into shadow.

The mucous membrane is closely adherent to the anterior portion of the septum and walls of the vestibule, whilst over the posterior part of the septum and turbinated bodies it is looser, and separated from the periosteum by the erectile body which becomes a thin layer as the anterior extremity of the bone is reached.

In the anterior portions of the nostril, therefore, the turbinated bodies are more compact and closely adherent than the posterior segments of the nasal chamber.

I have dwelt upon the above anatomical considerations because I have found them invaluable guides in diagnosis. In anterior rhinoscopy the amount of swelling may be very conveniently measured by the changes in breadth and direction of the S-shaped slit, and the degree of obliteration of the comma-shaped space, whilst the amount of posterior hypertrophy is most accurately determined by the anatomical facts detailed above. The amount of swelling on the septum may also be determined in a similar manner.

The amount of swelling or hypertrophy, and the implication of the bone in the process, may furthermore be measured by the hard and incompressible or the soft yielding character communicated to the finger by the probe, whilst hypertrophy may be differentiated from mere puffiness by the ease with which the erectile bodies may be emptied or compressed by mechanical causes or artificial contraction. In the latter case the rapidity of contraction is often a measure of the amount of mere puffiness. In using cocaine, for example, if the swelling be due to mere

[1] In a case suffering from mental disease, I observed the inferior turbinated bone so elevated that it occupied the position usually assumed by the middle, and its obliquity was such that more than half of its inferior surface was distinctly visible.

[2] I have observed this condition twice.

puffiness, acute or transitory engorgement, it subsides very rapidly, almost instantly, while if hypertrophy coexists the tissues collapse much more slowly and less completely.

In making the diagnosis of incipient rhinitis, it should be borne in mind[1] that the disease not infrequently has its starting point in the erectile bodies, and occasionally in the periosteum. In such cases, the first evidence of its existence is a more or less engorged state of the area occupied by cavernous tissue. A stimulus, too, which in the normal state would exert little or no impression, is usually sufficient to provoke more or less erection of this tissue with, it may be, the evolution of reflex phenomena. In all cases the cavernous structure becomes sooner or later involved. Abnormal irritability of the area covered by this tissue, with slight puffiness of the same, are, therefore, invaluable guides in the early recognition of chronic intranasal inflammation. It should be borne in mind, at the same time, that this condition of the erectile bodies is not always the forerunner of rhinitis, but may be due to other and physiological causes. The swelling of the mucus membrane of the vestibule and anterior portion of the septum (cartilaginous septum) is always inconsiderable, except in the latter portion of the hypertrophic stage, when it is often excessive.

In their perfect physiological condition, the nasal passages are moistened by a scarcely perceptible halitus which varies in amount according to the condition of the surrounding atmosphere and other external and internal causes. The existence of mucus must be regarded as pathological, and therefore incompatible with a perfectly healthy condition of the nasal passages. While the secretion of mucus may be due to temporary causes (local or systemic irritation), it is always present in greater or less amount in the earlier stages of rhinitis. The more or less constant presence of mucous secretion within the nostril is therefore indicative of commencing inflammation.

III. *General Rules of Treatment.*—The general principles governing the rational treatment of the different stages, may be summed up tersely in the following propositions:

In the early part of the first stage, the treatment is mainly hygienic (hardening the skin, acclimatizing the nasal passages, attention to general health, protection of nasal passages from direct or indirect sources of irritation, removal, if possible, to an equable climate, etc.), and consists in many cases simply in the search for, and removal of, the cause (local or reflex irritation, general systemic disease, vices of constitution from various causes, excesses, surroundings of patient, etc.). At this period local treatment is often unnecessary, and in some cases harmful. In other cases, great benefit is derived from the judicious use of detergent, alterative, and astringent preparations, applied, as far as possible, to the diseased surfaces alone, in the form of solution or mixture with some such substance as cosmoline, glycerine, vaseline, etc., or these substances may be advantageously used unmedicated. In a certain proportion of subjects, the administration of remedies to control reflex excitability of the nerve centres is productive of good.

The treatment of the second period of this stage must be carried out on the same general principles as above. Remembering the condition of the contractile elements of the intercellular walls, measures should be taken to restore their loss of power (strychnia and electricity occasionally useful). Failing in simpler means, resort may be had to the galvanocautery or to electrolysis.

In the above periods, medicines in solid form (*e. g.*, powders) are absolutely contraindicated, as tending to increase the irritation and to hasten the coming of the hypertrophic stage.

The management of the first period of the hypertrophic stage consists in a combination of the above methods. Here surgical procedures are more justifiable. In the second period of this stage, the treatment is essentially surgical, and consists in the removal of the obstruction, in procuring thorough cleanliness of the nasal passages, and attention to the general principles indicated above. Solids are contraindicated. The general treatment of the third stage is tonic and hygienic; the local, is palliative, and consists in keeping the parts scrupulously clean and lubricated.

[1] See article referred to above.

RAPID ANÆSTHESIA BY ETHER.

BY A. F. MÜLLER, M.D.,

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THE following method of rapid anæsthesia by ether was suggested to me seven or eight years ago by a thought that the great length of time often consumed in etherizing patients was due to the fact of the frequent interruptions necessary to replenish the cone or towel used for the purpose, and the consequent partial recovery of the patient. To obviate the difficulty and obtain a continuous flow of pure ether vapor, I had made an apparatus, consisting of the two valves of a rubber foot-ball; sewed together at the edges and connected by a tube with a bottle containing ether, which is plunged into a bucket of hot water. Ether boils at 98°, and vapor passes over steadily and rapidly, and is inhaled by the patient, whose face is covered by the inhaler, protected by a clean towel.

The result has been surprising, as will be seen by the following cases, all etherized by this method within the last three months at the Germantown Hospital. In none of the cases was there nausea previous to anæsthesia; one at least came to the house the morning of the operation having eaten a hearty breakfast. In most cases no struggling, and if so, only slight; no stage of excitement. In cases that require only a few moments for operation, the patient wakes up nearly as quickly as after nitrous oxide. After the patient is etherized, the amount passing over can be regulated by a stopcock at the bottle end of the tube.

The apparatus I have used is very crude, made only for the purpose of experiment, and I am having an improved one made, which I hope will be more satisfactory in some of its details.

The quantity of ether used to produce complete insensibility in no case exceeded three ounces; in some it was less than an ounce and a half.

Case 1.—D. E., epithelioma of eyelid; plastic operation: unconscious in thirty seconds.

Case 2.—K. McF., peritomy: unconscious in one minute twenty seconds.

Case 3.—K. McF., peritomy: unconscious in one minute eleven seconds.

Case 4.—M. P., paronychia and palmar abscess: forty-five seconds.

Case 5.—Mrs. B., lacerated cervix: one minute twenty seconds.

Case 6.—Mrs. B., lacerated cervix: one minute fifteen seconds.

Case 7.—Bilateral lithotomy: one minute fourteen seconds.

Case 8.—Miss M., dilatation of cervix: one minute forty seconds.

Case 9.—Mrs. T., laceration of cervix: one minute twenty-four seconds.

Case 10.—Mrs. S., fracture of anatomical neck of humerus: one minute seventeen seconds.

Case 11.—Mrs. M., fracture of tibia and fibula: forty seconds.

Case 12.—Mrs. M., fracture of tibia and fibula: one minute forty-five seconds.

Case 13.—Mrs. B., fracture of tibia and fibula: two minutes.

Case 14.—Cataract: one minute fifteen seconds. This man when operated upon in the Germantown Hospital for cataract in the other eye about a year ago, took a large quantity of ether, and required an hour to put him under its influence.

Case 15.—Mrs. D., amputation of forearm: one minute thirty seconds.

Case 16.—McLane, hypopyon: one minute twenty seconds.

Case 17.—Mrs. S., lacerated cervix operation: one minute thirty seconds.

Case 18.—Cleaver, sarcoma of iris: one minute twenty seconds.

A CASE OF ARCUS SENILIS IN A BOY THREE AND A HALF YEARS OF AGE.

By H. F. HANSELL, A.M., M.D.,
Chief of Clinic of Eye Department of Polyclinic, Ophthalmic and Aural Surgeon to Southwestern Hospital etc, Philadelphia.

Recently at The Southwestern Hospital was presented the following case which, as far as I am able to learn, is unique: A mulatto boy three and a half years of age with distinctly marked and unmistakable arcus senilis in each cornea. "Circulus" senilis would be the more accurate designation, since the ring is complete on each cornea, though not quite so fully developed below as above, and on the sides. It appeared on each eye simultaneously in the upper segments of the cornea, about one year ago while the boy was convalescing from an attack of measles, and slowly advanced until the arc was made into a ring. I could obtain no history of inflammation or ulceration, and the mother positively asserts that the child's eyes "never had anything the matter with them, except the white rings."

These rings of fatty degeneration are in nowise dissimilar to the arcus senilis of adult life or old age. There is a margin of clear cornea between them and the sclerotic border, and they are sharply bounded toward the centre by clear corneal tissue which shows no trace of previous inflammation.

The influence of heredity, which can usually be traced where the arcus appears in the very young, in our case is negative. The mother and several brothers and sisters are free from the affection. The boy has no other abnormalities, and his health is perfect.

Edwin Canton, in his monograph on Arcus Senilis, says: "The arcus is said to have been seen at birth. I doubt the correctness of this assertion, and as I have already remarked, believe that an arciform opacity, the result of ulceration, was mistaken for it." The youngest case he mentions occurred in a boy of 12, in whose father, aged 56, mother, aged 53, and two brothers, aged 16 and 20, the arcus was very distinct. Middlemore says, it occurs as early as 40, Laurence between 30 and 40, Sybel saw it in a man of 32, Dixon in a girl of 18. Gross, in his *Pathology*, says: "The earliest age at which it usually occurs is 50, although it has been observed in a few instances in young children."

254 South Sixteenth Street.

MEDICAL PROGRESS.

Abortive Treatment of Typhoid Fever by Mercurial Inunctions.—Dr. Kalb, of Thalmässing, in the *Berliner klin. Woch.*, No 3, 1885, reports that he has treated one hundred cases in this way. Mercury is no new medicament—it is only applied in a new way in this fever. Six grammes of the ointment (in children four) are rubbed in for half an hour each time daily for six times in all—1st, on the belly; 2d, on the inner side of the right thigh; 3d, the left, and then beginning with the abdomen again. The ointment is preferable when a little rancid; it causes less eczema than when fresh. Internally at first a few pills of calomel and opium are given, even when diarrhœa is present. No other medication is resorted to, save methodical use of alcohol (sp. oryzæ), colored with cochineal. The course of the disease under this treatment was mostly as follows: On the eighth day, consequently on the second after the inunctions ended, the temperature fell to normal or thereabout, and remained so. The pulse remains for a few days over 100 or 120, yet it falls with the temperature to normal, or even 60. With the fall of temperature an abundant sweating almost always sets in, and the body is covered with miliary vesicles. The spleen remains enlarged and palpable for ten to fourteen days after this. Dr. Kalb did not fail to make comparative experiments, and found that the inunction treatment caused an evident shortening of the course of the disease. Eighty per cent. of his cases so treated were free from fever in ten days from its beginning. But to be successful, treatment must be begun before the ninth day of the fever, consequently before rose-spots are visible. No stomatitis worth mentioning has ever resulted, and patients recovering so soon must be carefully watched for a fort-

night and dietetic errors avoided, so that relapses may be prevented. The charts adhibited show the cases to have been of some severity, as temperatures of 40° and 41° C. (= 104° to 105°.8) are registered.—*Edinburgh Med. Journal*, March, 1885.

Treatment of Vaginitis.—Sigmund recommends the following solution for the treatment of vaginitis:

Iodine	gr. 1¼
Potassium iodide	gr. 6 to 12
Glycerine, pure	ʒv.

Dissolve and apply to the walls of the vagina, or introduce tampons wet with the solution for the treatment of blenorrhagic vaginitis with granulations.—*L'Union Médicale*, February 12, 1885.

Retention of a Dead Fœtus to the Normal End of Pregnancy.—Dr. Pelzer reports the following case of retention of the dead fœtus during several months. The case was under observation at Rabenau's Polyclinic, and is of interest on account of its rarity.

The woman was fifty years old and had menstruated regularly since the age of sixteen. She had borne two children, and fifteen months previously to her appearance at the polyclinic had aborted at three months. She gave no history of syphilis, and had always been in good health.

On the 6th of November, 1884, the woman appeared at the clinic—giving the history of not having menstruated since the 12th of February. She had none of the subjective symptoms of pregnancy.

The uterus lay in normal position, was somewhat soft, and indicated the fourth month of pregnancy. The neck of the uterus was thick, soft, and showed by the speculum a bluish color. The os uteri was rather large.

The breasts were well developed, but on pressure no milk appeared. The examination caused no pain. Further examination was made about one week after her first appearance at the clinic, and had the effect of exciting uterine contractions, inasmuch as two days later the woman returned, giving a history of profuse bleeding since her preceding visit. Examination revealed the presence of the membranes in the cervical canal. The product of conception was therefore extracted—during which the membranes were broken and a quantity of amniotic fluid, clear, but of bad odor, escaped. The placenta, which was slightly adherent, was then delivered, and afterward the uterus was thoroughly washed out with a solution of corrosive sublimate (1:4000).

The fœtus was well preserved. The umbilical cord was long and entirely free from knots. The placenta was of ordinary form and structure. The further progress of the case was normal, a slight retroflexion only being present, which arose, no doubt, from the lack of care the woman exercised. The malposition was corrected by a pessary, and, January 26, the uterus showed a measurement of three and one-fifth inches.—*Centralbl. für Gynäklogie*, Feb. 28, 1885.

Extraction of Hard Cataract.—At the January meeting of the *Congrès de la Société Française d'Ophthalmologie*, Galezowski's method for extraction of hard cataract, which, according to that operator's statistics, has given such brilliant results, was discussed at length.

The method of operation is as follows:

1. The eyelids are separated with the articulated blepharostat, and the globe seized below the cornea with forceps to render it steady.

2. With a very delicate Graefe knife he punctures at the junction of the transparent cornea with the sclerotic, about one-eighth inch above the horizontal diameter.

3. He then introduces the point of the knife below the pupil and incises the capsule from below upward in a semicircle. He then makes counter-puncture on the side opposite the corneal border, an eighth of an inch above the horizontal diameter.

4. He then incises the cornea one-twelfth of an inch from the sclerotic border.

5. The blepharostat and forceps are then removed, and the eye permitted to rest.

6. The upper eyelid is then elevated with the little finger at the right hand, and at the same time the curette is applied to the sclerotic border of the wound.

7. With the thumb of the left hand he then presses upon the lower border of the cornea. The crystalline lens is engaged and escapes without difficulty.

8. The iris frequently returns of itself; if not, he replaces it with a fine silver stylet.

9. A collyrium of eserine is next applied to the eye.

10. Carbolic acid spray is directed upon the wound for one or two minutes, and antiseptic carbolic dressing applied.

M. Galezowski considers the use of the carbolic spray as very important for the cure of the corneal wound.—*Gazette Médicale de Paris*, March 7, 1885.

Cannabis Indica in the Opium Habit.—Dr. J. B. Mattison, in the *Canada Medical Record* of Jan. 1885, recommends the fluid extract of cannabis Indica in the treatment of the opium habit where the characteristic restlessness or insomnia is manifested after the withdrawal of the opium. Full doses are given and repeated every hour, second hour, or less often as may be required. Squibb's fluid extract is used, and 60 minims given at a dose, no unpleasant symptoms having ever been noticed, and Dr. Mattison considers that the small doses recommended in the books are useless.

Treatment of Zona.—Dr. Fabre recommends the following treatment of zona: In the beginning of the disease, mild purgatives may be necessary. These should be followed by general sedatives, such as opium, belladonna, and ether, to diminish the pain. Locally, anodyne liniments may be applied and the diseased parts dusted with subnitrate of bismuth or oxide of zinc. If the vesicles are fresh and transparent, they may be aborted by covering them with collodion; but if they have been present four or five days, application of collodion will have no good effect; but, on the contrary, they will suppurate beneath it. The neuralgia which persists after the cure of the eruption should be treated by hypodermic injection of morphine or atropine, and arsenious acid in doses of from $\frac{1}{50}$th to $\frac{1}{8}$th of a grain be administered internally.—*L'Union Médicale*, Feb. 26, 1885.

Sciatica Cured by Chloride of Methyl.—At a meeting of the Société des Hôpitaux, held February 13th, M. Desnos read a communication from Dr. Almagran, of Orleans, concerning a patient suffering from severe and persistent sciatica. The disease had resisted all treatment and gradually became worse, and after application of the cautery the pain was intolerable. After two applications of chloride of methyl all along the course of the sciatic nerve, progressive improvement resulted, within three days the pain had entirely disappeared, and at the end of three months had not returned.—*Revue Médicale*, Feb. 21, 1885.

Laparotomy Repeated for Intestinal Occlusion.—Dr. Alfred Obalinski, in the *Wien. Med. Presse*, Nos. 48–50, 1884, gave the history of a laparotomy performed by him for intestinal occlusion. Ten days after its performance, the patient was sent home cured, September 29, 1884. January 16th of the present year, the patient returned to Dr. Obalinski, again seeking relief and complaining of the same pain as existed four months previously. Examination revealed the fact that about the 8th of January he began the second time to suffer intestinal pain which progressively increased in intensity. Seeking the advice of his family physician, he was directed to use purges and enemata, but these were without effect, and laparotomy was suggested as the only means of relief.

After careful examination, owing to the existence of meteorism, constipation, pain, etc., Dr. Obalinski was convinced that he again had to deal with a case of volvulus. Accordingly, a long incision was made in the abdomen about half an inch to the left of the cicatrix of the former wound. The peritoneum was found to be entirely normal, pale or slightly reddish. In it was a clear but dark-colored effusion, after the removal of which the intestine was found strangulated in the mesentery. The same difficulties presenting themselves as in the former operation, Dr. Obalinski punctured the small intestine with a probe trocar, but the perforation thus made refused to close, and accordingly sutures were introduced to insure thorough closing of the intestine. After the operation, there was movement of the bowels twice during the night, and the condition of the patient for two days succeeding the operation was very favorable. The pulse was strong at 80, the temperature about 100° F., and no abdominal pain was experienced. At the end of this time, however, severe abdominal symptoms were manifested and these were followed by collapse, great tympanites, and small thready pulse. Notwithstanding all efforts to sustain the patient, death resulted. The opinion was held that peritonitis had been caused by a failure of the catgut sutures to close the perforations in the intestine, and the consequent escape of the contents of the bowel into the peritoneal cavity. Post-mortem examination, however, showed this view to be incorrect.

In the peritoneal cavity was found about a quart of yellow feculent fluid. Further search revealed the presence of an opening in the ileum about one inch long and a fifth of an inch wide, with fatty edges. Further examination showed the colon to be the seat of numerous infiltrated spots, about twenty in number, the size of a *kreutzer*. The neighboring lymphatics were also markedly infiltrated, and the spleen was double the normal size and soft.

The case is especially of interest, as showing that the patient probably would have recovered from the second operation had it not been for the diseased condition of the bowel, due to a degeneration produced by typhoid fever, whose previous occurrence had not even been suspected.—*Wiener Med. Presse*, Feb. 15, 1885.

Artificial Fluid Tympanic Membrane: A New Mode of Treatment of Chronic Otorrhœa.—Michael, having noticed an improvement in the hearing of persons with perforated tympanic membrane when fluid was contained in the ear, conceived the idea of introducing into the ear an artificial fluid tympanic membrane instead of the pledget of wadding ordinarily used.

The method he proposes is the following: By means of a dropper he introduces glycerine into the ear until testing of the hearing, made after the introduction of each drop, shows an increased power of audition. If a drop too much is introduced, it is removed by a little wadding. He then introduces a few drops of elastic collodion, which does not unite with the glycerine, but forms a pellicle on the top of it. It is necessary at certain intervals to renew the collodion, as after a time the pellicle formed by it is destroyed.

When purulent otorrhœa is to be treated, Michael uses, in the place of pure glycerine, glycerine and alum or tannic acid.

Michael specially remarks that there is no danger in purulent otitis of confining the pus behind the collodion. The double advantage of this mode of treatment is protection of the ear from the air and the application of an astringent solution to its mucous membrane.—*Revue de Thérapeutique*, March 1, 1885.

Diabetic Neuralgia.—Dr. Florain, in the *Gazette Médicale de Paris* of Feb. 28, 1885, after discussing a typical case of diabetic neuralgia which came under his notice, concludes the pathogeny of the disease not to be well established. It is, however, easily recognized by its appearance concomitantly with diabetes, its intensely nocturnal exacerbations, and symmetry.

The appearance of the attacks before pregnancy, while the patient is in relatively good health, when there is no anæmia, sets aside at once the possibility of an anæmic origin. Moreover, gestation itself can no longer be reckoned as an exciting cause, inasmuch as the attacks may recur three months after confinement, and after a metro-peritonitis followed by abundant hemorrhage.

In the treatment of the disease, electricity seems to be efficient, faradization being very certainly followed by beneficial results.

Dr. Florain explains the good effect of electricity by supposing that the increased muscular action excited by the current, results in the formation of lactic acid at the expense of the inosite of the muscular tissue and of the hydrocarbons accumulated in the blood.

A Case of Floating Liver.—Dr. J. Maack, in the *St. Petersburger med. Wochenschrift*, 1884, No. 40, reports a case of floating liver in an unmarried woman

aged 35. Eleven years ago a swelling was observed under the border of the right ribs, and was pronounced a hydatid tumor of the liver. The swelling gradually increased in size, and produced but little disturbance until May, 1884, when nervous symptoms of such intensity manifested themselves that she again submitted herself for examination. The liver was out of its normal position, and a hemispherical smooth, stationary mass was present in the right ileo-cæcal region, overlying the right os ilei. The liver was not enlarged, but contraction had probably taken place

Floating liver previously has only been observed in women who have been especially prolific, and to relieve the symptoms produced thereby only the application of a bandage is necessary. In the preceding case, however, all attempts to produce pressure by a bandage were followed by pain, oppression, and fainting.

The case is, moreover, a very unusual one, in which the cause of dislocation of the liver was not relaxation of the abdominal wall, but stretching of the suspensory ligament of the liver, due to hydatid tumor, which in the meanwhile had decreased in size.—*Centralblatt für Chirurgie*, Jan. 24, 1885.

Physiological Action of Cocaine.—At a meeting of the French Academy of Sciences, M. Vulpian read a paper on the physiological action of cocaine, by MM. Grasset and Jeannel. The conclusions reached are the following:

1. Cocaine produces in the ape violent convulsive attacks.

2. Chloral is antagonistic to cocaine as an excito-motor as well as in its thermic effects.

3. The thermic action of cocaine does not appear to be identical in the ape and dog.

4. Antipyrin does not appear to be antagonistic to cocaine in thermic effects.—*L'Abeille Médicale*, Feb. 23, 1885.

Hysterical Fever.—M. Debove, at a meeting of the Société Médicale des Hôpitaux, recently held, read a paper upon hysterical fever. The existence of this disease, though admitted by ancient authors, has been disputed for the most part by modern writers. In supporting the view of the entity of the affection, M. Debove cited the case of a woman, aged 24 years, and who has been under his care for five years. The woman has the various hysterical manifestations, and about three years ago first experienced marked febrile disturbance, and has ever since had a temperature above 102⅖° F. At very irregular intervals violent exacerbations take place in the febrile symptoms, more or less resembling attacks of intermittent fever, and accompanied by a temperature of from 102⅗° F. to 104° F. These attacks were at first thought to be malarial, but the small size of the spleen and the absence of all cachexia, and the failure of quinine to influence the disease, showed this conclusion to be erroneous.

Latent tuberculosis was also excluded, and a diagnosis made of hysterical fever. Shortly after the hysterical origin of the fever was decided upon, the patient experienced a renewal of the febrile symptoms of great intensity. The temperature reached 105⅘° F., and the pulse was 130.

Sulphate of quinia had no influence whatever upon the attack, which persisted fourteen days. On the thirteenth day, 75 grains of antipyrin reduced the temperature below 100⅖° F., and her general condition was much improved. M. Debove has also observed other cases analogous to that just cited, not so clearly defined, but which support the conclusions he has reached as to the reality of hysterical fever. In the somnambulistic state, M. Debove has observed the temperature to rise from 1° F. to 2° F. by mere suggestion. Lowering of temperature by the same means has been less certainly obtained, the central temperature remaining invariable or even rising. Under these circumstances, M. Debove is of the opinion that the central thermic elevation is due to the contraction of the peripheral vessels under the influence of the suggestion of cold and to the consequent diminution of the loss of heat from the surface of the skin.—*Gazette Hebdomadaire de Médecine et de Chirurgie*, Feb. 20, 1885.

Treatment of Tetanus.—Prof. Verneuil (*Revue de Médecine de Toulouse*), in the treatment of tetanus, adopts the following as fulfilling the indications most necessary to combat the disease:

1. *Complete immobility*, best obtained by Bonnet's apparatus.

2. *Constant and elevated temperature*, obtained by enveloping the entire body in a thick covering of wadding.

3. *Uninterrupted sleep*—chloral coma continued about twenty days.

When tonic contraction of the heart or bronchial muscles threatens the life of the patient, the continued current or tracheotomy must be resorted to. If there is danger of death from starvation, owing to dysphagia, or if the œsophageal sound is repelled, gastrostomy may be a final resort.—*Revue Médicale*, Feb. 28, 1885.

Twenty-three Tæniæ Expelled in One Day.—A. Laveran, Professor at d'École du Val-de-Grace, reports the following remarkable case of the expulsion of twenty-three tæniæ in one day. The patient was a lieutenant in the French army, and entered the hospital of Val-de-Grace in December, 1884, and soon after his admission passed segments of tænia. Previous to his admission to the hospital, he had been treated with various drugs, among which were santonine, pumpkin-seed, and castor oil, none of which was satisfactory. December 23, trial was made of the ethereal oil of male fern. The day preceding its administration, the patient partook of no food save milk. On the morning of December 24, examination of the stools which had been passed the preceding day revealed the presence of twenty-three tæniæ, all but one of which were complete—the head of this one being absent, or at least not found. The tæniæ measured together about 177 feet. The macroscopic appearances were those of the unarmed tapeworm, and examination by the microscope confirmed this opinion.

Prof. Laveran concludes his report with an interesting bibliography of the cases in which multiple tæniæ have been found to exist, and justly remarks that the term *solitary*, usually applied to this parasite, is not always correct.—*Archives de Médecine et de Pharmacie Militaires*, March, 1885.

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THE TREATMENT OF ILEUS.

ALTHOUGH laparotomy has come to be recognized as one of the justifiable measures in the treatment of intestinal obstruction, it is a resource which, on account of its radical character, will probably always be the last adopted. It is gratifying, therefore, to be able to add one more remedy to those already existing, which may, without any risk of harming the patient, possibly avert the necessity for so formidable an operation. Such a resource has been recently brought forward by KUSSMAUL and CAHN, in the *Berliner klin. Wochenschrift*, Nos. 42 and 43, 1884, and still more recently by DR. C. HASENCLEVER, in a paper read before the Berlin Medical Society, and published in the same journal, No. 5, 1885. It consists in washing out the stomach. Hasenclever reports six cases, in all of which marked relief was afforded, and although only two recovered, the autopsies in the remainder revealed other serious lesions which necessarily rendered any treatment futile. Cahn reports three cases from Kussmaul's clinic, of which two recovered.

Still more recently, DR. J. T. WHITTAKER read a paper on this subject before the Cincinnati Academy of Medicine, an abstract of which, together with the discussion which followed, is published in the current issue of this Journal. Two cases are referred to by Dr. Whittaker as occurring in his own practice, one by Dr. J. L. Cleveland, and another by Dr. William Judkins. The cases of Whittaker and Cleveland, although relieved, died, but that of Judkins recovered. It would seem also from Dr. Whittaker's paper that the primary suggestion of this treatment came, not from Germany, but from Cincinnati, and from Dr. Cleveland.

As soon as the diagnosis of obstruction is made, the stomach should be washed out once or even twice a day. In this way often large quantities of fecal matter, mucus, and gas, are removed, while the singultus and stercoraceous vomiting cease, and the patient experiences marked relief. Spontaneous fecal evacuations also sometimes follow. The irrigation is practised until the patient is completely relieved, or the procedure is shown to be useless. The washing is continued until the fluid comes away clear.

The rationale of this treatment cannot be definitely stated, but from the standpoint of relief to vomiting, its use is as much indicated as that of opium and ice, which, while they often relieve this symptom, nevertheless fail to remove the cause. Whether the vomiting be explained as the result of a reversed peristalsis, or be regarded as simply mechanical, the opium merely obtunds the excitability of the nervous system, and thus averts, for a time, the reflex act of vomiting, while the intestinal contents continue to accumulate. By the irrigation, one element of the trouble is at least removed—the distention of the stomach and upper part of the intestine, because, as was shown by Oser, in the *Wiener Med. Blätter*, 1884, No. 41, the operation not only cleans out the stomach, but the small intestine as well; and this, too, as effectually, where there is insufficiency of the pylorus, as in acute and chronic intestinal obstruction.

As to the curative action of this treatment, where there is no insuperable obstacle against the re-establishment of the natural evacuations, Kussmaul suggests the following explanation: 1. By removing the large accumulation of fluid in the intestine, more space in the abdomen is provided, and the enormous distention of certain parts at the expense of others is avoided. 2. The peristaltic movements of the intestine, above the point of obstruction, previously violent and irregular, become more quiet and regular. 3. It is only possible to remove a remediable obstruction, such as a bend or an invagination. Hasenclever suggests that the great distention of the stomach and intestine, in addition to the presence of unusually irritating contents, may produce strong irritation of the splanchnic fibres, and a consequent inhibition of peristalsis, with paralysis of the bowel. It frequently happens in ileus, that, succeeding a period of violent, painful peristaltic motion, there follows a long period of absolute rest, in which the activity of the intestine appears to be paralyzed, and one can easily understand that after the removal of any irritating matters, the inhibition grows less, so that the forces regulating peristalsis again acquire the ascendency, and produce fecal evacuations.

In the course of the discussion upon Dr. Hasenclever's paper, Senator having mentioned the use

of castor oil and croton oil in ileus, Ewald took exception to the use of purgatives, and especially of drastics, as calculated to produce serious mischief in breaking up the adhesions, pretty sure to be excited by hardened and adhering feces, whether the obstruction be due to a twist or an invagination.

Senator thought that patients admitted to hospitals for this affection had usually already taken purgatives, either of their own accord or at the suggestion of a physician, and they sought the hospital because they had failed to receive relief from them. No fair conclusion, therefore, can be drawn in hospital practice as to the action of purgatives. On the other hand, experience in private practice had taught him in many instances of ileus, that purgatives had been very useful; not only in simple fecal obstruction, but also in stenosis of the intestine, the result of tumors. In all such cases in which there was no strangulated hernia or an evident invagination, or some other contraindication, as peritonitis, he had been in the habit of using, in the beginning of the treatment, cathartics, and drastic ones at that, The theoretical objections to the use of cathartics have as little to sustain them in practice, as those against the use of opium given with a view to *quiet* peristalsis, while irritating enemata and ice water injections are simultaneously given to *excite* peristalsis—apparently opposing measures which he and other physicians had nevertheless found of signal service.

Among the other purposes for which Kussmaul's procedure has been suggested, is biliary colic, due to impacted gall stones. At a recent meeting of the Berlin Medical Society, Rosenthal reported two cases treated in this manner. One was that of a woman of 33, who had been six months under his care with successive attacks of biliary colic, for which all the usual measures had been resorted to, morphine alone giving her relief. He then washed out the stomach, with a view to obtaining the sedative effect to which attention had already been called by Senator. As an apparent consequence, the vomiting, which had been troublesome, ceased. She returned almost daily to have the operation repeated, and on the fourteenth day she brought with her two gall stones, each about as large as a hazelnut. Since then she has had no recurrence of the symptoms.

The second case was also that of a woman who suffered from very severe attacks of hepatic colic with obstinate vomiting, and after washing out her stomach for a few days, not only did the vomiting cease, but the stones were also passed.

Rosenthal did not undertake to explain the rationale of this treatment.

ARTHRECTOMY AT THE KNEE.

Practical surgeons need scarcely be reminded of the bad functional results which follow resection of the knee for tubercular disease. In adults and subjects who have almost completed their growth, the limb is always shortened, while in children not only is there a suspension of growth, but angular deformity and contraction of the muscles are commonly met with, especially in those of the lower classes, who, after their discharge from the hospital, are usually neglected, and the limb becomes a positive incumbrance.

In the *Centralblatt für Chirurgie*, No. 9, 1885, Professor Volkmann, of Halle, calls attention to the important facts, first, that tuberculosis of the knee-joint of adults is, as a rule, primary, commencing in the synovial membrane and rarely extending to the bones, or if the latter be secondarily involved, the disease is quite superficial; and, secondly, that in children the disease usually begins in the bone, as a very small deposit varying in size from a pea to a hazelnut and that the cartilage is entirely or in greater part intact. Hence, he concludes that removal of the joint surfaces of the bones is not called for in adults, and that the old typical resection or removal of the epiphyses may be avoided in the majority of cases occurring in children.

Actuated by his conclusions, he has for some time, in cases of fungous gonitis, both of adults and children, practised with the best results, what he terms synovial arthrectomy, that is to say, the total excision of the degenerated capsule, leaving the bones and cartilages as far as possible intact. In advanced cases, arthrectomy is preceded by certain preparatory procedures. Thus, contraction of the joint is remedied by extension with weights, or by manual reduction, followed by an immovable bandage; large abscesses are freely opened, carefully scraped, and the walls sutured; and the fungous masses of sinuses and undermined skin removed with the spoon, and the parts dressed with antiseptic agents.

The joint is partially opened by a transverse incision, when, if after digital exploration and inspection of the parts, total extirpation of the capsule is indicated, the incision is enlarged, and the patella divided with a saw. Should the disease extend high up, converting the bursa beneath the quadriceps extensor tendon into a tumor with thick walls, a flap is raised, of which the base corresponds to the interarticular line, and the apex is on a level with the upper end of the bursa. The joint having been freely exposed, the entire capsule, including the synovial membrane and its processes, the remnants of the semilunar cartilages, and the ligaments are removed with scissors and scalpel until sound tissues are reached. Should the subquadricipital bursa be involved, it is first attacked, through which the femur is exposed to the extent ot two and a half or three inches. The cartilaginous surfaces of the bones are frequently left intact, but, in other cases, superficial or thick layers require excision. Tuberculous foci in the bones, should they

exist, are spooned or chiselled out. When indicated, partial resection of the joint ends is practised, but all sound bone and cartilage are scrupulously spared.

The preparatory straightening of the joint makes it possible to bring the limb in a straight or slightly flexed position. The epiphyses are kept in close contact, the divided patella is united with catgut sutures, and the tendon of the quadriceps or the patellar ligament, should they have been divided, are again united to the patella. The wound is, finally, carefully closed with sutures, with the exception of openings for the drainage tubes. During the operation the large surface is frequently irrigated with the sublimate solution, and, at its completion, antiseptic dressings are applied, and the limb supported on a splint.

The wound, with the exception of the openings for the drains, heals by primary union, and the operation is absolutely without danger, provided, in the case of children, too much blood be not lost, and the anæsthesia be not too deep and prolonged. The final results show a normally formed, not shortened, but stiff limb, the anchylosis of which is far more firm than after ordinary resection. The only subsequent precaution to be observed is the wearing of proper apparatus for a long time to overcome the tendency exhibited by the flexors to contract.

The paper of Volkmann is not supported by the details of cases, but a special article, prepared by one of his pupils, will appear in the course of the year, in which the comparative merits of arthrotomy, or incision and drainage, partial and total arthrectomy, and resection for fungous gonitis will be fully discussed. In the meanwhile his practice, which is most rational, will, we trust, be generally adopted.

It is interesting to note that in a paper, entitled Conservative Operations in Articular Tuberculosis, read at the Copenhagen Medical Congress, and published in the *Révue de Chirurgie*, No. 3, 1885, Professor Ollier, of Lyons, agrees in the main with Volkmann. Thus, he says that in children tubercle generally begins in the bone, while it starts in the synovial membrane in adults; and he declares that in only one case of a child below the age of ten has he been obliged to practise a formal resection of the knee. In this class of subjects, he opens the joint freely, excises and destroys fungosities with the hot iron, and scoops out tubercular foci. In adults, on the other hand, he prefers resection or amputation, since less radical measures rarely suffice to effect riddance of the disease.

THE THYROID GLAND AND MYXŒDEMA.

Professor Horsley has begun his labors at the Brown Institution, London, by a most important contribution to the physiology of the thyroid gland and its relation to the remarkable cretinoid condition which has, in some instances, followed its removal in man, and to the pathological state described by Ord as myxœdema. It has long been taught that the thyroid gland has no important influence on the bodily functions, and surgeons, acting on this assumption, have, in scores of instances, successfully removed it for various growths and degenerations. Kocher, however, has shown that in many cases a most serious disturbance of nutrition is apt to follow the operation, resulting in a condition which he calls cachexia strumipriva, a condition closely resembling, if not identical, with myxœdema and some forms of cretinism. Mr. Horsley has found that the removal of the gland in monkeys has a similar effect, but leads more rapidly to a fatal result. After complete removal the animal shows no change for five or six days, then the appetite fails, but afterwards becomes voracious. Fibrillar tremors of the muscles become general, and the animals get thin, pale, and languid. The eyelids and face become puffy, the neck thick, the abdomen distended, the salivary glands swollen, and the skin hypertrophied. The temperature gradually falls, the tremors cease and coma supervenes, with death in from six to seven weeks from the date of the operation. After death, the spleen is found enlarged, and the omentum hypertrophied, but the most remarkable changes are in the connective tissue elements, which are everywhere swollen by a mucoid transformation of the ground substance, with which is associated a wasting of the fat. The analysis shows a great increase in mucin, three or four-fold in the case of the subcutaneous connective tissue and tendon. Mucin is also found in the blood.

It seems reasonable to attribute these various conditions—cretinism, myxœdema (in which also the thyroid has been found atrophied or diseased), and cachexia strumipriva—to disturbance or arrest of the functions of this gland, and the possibility of the supervention of this state will make the operation of thyroidectomy almost unjustifiable. It would be interesting to ascertain the subsequent histories of cases operated upon in this country. Green, of Portland, Fenwick, of Montreal, and others, have had a large number of cases, many of which should be available for such an inquiry.

THE OPERATIVE TREATMENT OF PYOSALPINX.

Extirpation of the appendages, incision of the sac with drainage, and aspiration through the vagina, are the operations which have hitherto been practised for the relief of suppuration of the Fallopian tubes. Ovariosalpingectomy, in the hands of experienced surgeons like Tait, shows a mortality of 5 per cent.. and the formation of a hæmatocele in about 7 per cent. of the survivors. Hence the operation is not

a very lethal one; but when the sac has contracted firm adhesions to the surrounding parts, especially to the posterior layer of the broad ligament, and the bottom of the pouch of Douglas, it is not only very difficult of execution, but the distended tube is liable to be lacerated, thereby endangering life from peritonitis. Salpingotomy, or incision of the sac with suture of its walls to the abdominal wound, and subsequent drainage, is rendered almost impracticable when there are firm adhesions between the swelling and the pelvis, on account of which the sac is not easily drawn forward, and the sutures are exposed to the dangers of rapidly cutting their way out, thereby leaving openings for the escape of the pus into the peritoneal cavity. Puncture or aspiration through the vagina is attended with the disadvantage of having to be frequently repeated, and the risk of the escape of some of the contents of the sac into the peritoneal cavity, should the adhesions in the pouch of Douglas be incomplete.

In the *Centralblatt für Gynækologie*, No. 10, 1885, Wiedow, of Freiburg, calls attention to other methods of treatment which he believes will be found to fulfil the indications. When the distended cyst lies deep in the pelvic cavity, and is fixed by firm adhesions, a sagittal incision should be made through the vagina into Douglas's cul-de-sac, and the cyst be freely opened. Should exploration with the finger, however, indicate the absence of adhesions, the wound is plugged with iodoform gauze to excite adhesions, when incision is practised. When the cyst, on the other hand, lies in front of the broad ligament, and extends for some distance up the anterior wall of the belly, it may be reached by an incision, about two inches and a half long, carried through the wall of the abdomen, about an inch and a half above Poupart's ligament. If it be then found that the sac is adherent, it is at once opened; but should there be no adhesions, the case is managed as in the previous instance, before the abscess is cut into.

Since experience with pelvic abscesses has shown that they are best drained through two openings, Wiedow concludes that it will be wise to deal with pyosalpinx by incisions carried both through the pouch of Douglas and through the abdominal wall. In any event, irrigation with antiseptic solutions must be practised with great care, lest rupture of recent adhesions results. In an illustrative case, treated by Hegar by through and through drainage, recovery was complete in one month; but it will require very extended observation to determine whether the method possesses any real advantages over the removal of the appendages. If, after an exploratory laparotomy, extensive adhesions be met with, thereby imperilling the success of the operation, we do not doubt that the suggestion of Wiedow would be eminently proper.

GENERAL GRANT'S CONDITION.

The condition of General Grant, after a fortnight of comparative well-being and slight improvement, has undergone a marked change for the worse. Two weeks ago there was first noticed upon the back of the pharynx a vertical strip of discoloration and slight elevation, the nature of which could not then be determined; it was half an inch broad, and extended out of sight behind the palate and base of the tongue. It remained without much change for more than a week, but on Sunday had apparently become a phagedænic ulcer, and at the same time the ulceration of the tongue extended and the palate became œdematous.

During the nights of the 28th and 29th he suffered great distress from a feeling of obstruction in the pharynx, which was relieved by the local application of cocaine and twenty minims of Magendie's solution hypodermically. During the attack he was somewhat dazed, and on the following day there were evidences of cardiac failure, with intermittence of the pulse. The distressing sensations were apparently due to œdema of the pharynx, but, fortunately, the œdema did not involve the glottis. The marked increase of the area of ulceration, and the uncertainty as to the distance to which it has extended downward behind the tongue, cause much solicitude, and his condition, as we go to press, must be deemed extremely critical.

It should be borne in mind that the disease throughout has been rather of the pharynx than of the tongue, and has closely resembled in its course and lesions the soft form of epithelioma of the œsophagus, in which induration due to epithelial proliferation is slight and the ulceration is coextensive with its area. While to this fact may be due the absence of the pain which so commonly and distressingly complicates epithelioma of the tongue, this exemption is gained only at the price of a more rapid extension of the disease, and greater exposure to the secondary consequences of the ichorous discharge.

THE INHALATION OF DEFIBRINATED BLOOD.

In view of the bad results which follow the ordinary methods of transfusion of blood, and of the great tolerance of the respiratory organs to foreign fluids, and the rapid absorption of the latter, Professor Fabrini, of Palermo, calls attention, in the *Centralblatt für die Medicinische Wissenschaften*, No. 9, 1885, to what may be termed pulmonary transfusion. The fluid employed consists of twenty parts of bullock's blood, and eighty parts of a three-fourths per cent. watery solution of chloride of sodium, in which the red corpuscles preserve their normal properties for a long time. Inhalations of about three ounces and a half of the mixture, through the medium of an ordi-

nary spray apparatus, do not excite coughing, nor do they bring about any perceptible alterations in the circulation, respiration, or the temperature, and auscultation shows that the mixture is rapidly absorbed.

Fabrini has resorted to this novel method of transfusion in cases of oligæmia with the best results, as indicated not only by the improvement in the general condition of the patient, but also by the increase in the relative number of the red corpuscles, and in the quantity of hæmoglobin. These results are stated in a general way, and not supported by details of cases. Hence, more extended trials will have to determine the value of the method.

REVIEWS.

A System of Practical Medicine by American Authors. Edited by William Pepper, M.D., LL.D., Provost and Professor of the Theory and Practice of Medicine and of Clinical Medicine in the University of Pennsylvania, assisted by Louis Starr, M.D., Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania. Volume I. Pathology and General Diseases. 8vo. pp. 1094. Philadelphia: Lea Brothers & Co., 1885.

Both Editor and Publishers are to be congratulated at having reached this stage in their great undertaking, and we may venture to estimate from this volume the general prospects of the work, and judge how far the time was ripe for "the presentation of the whole field of Medicine as it is actually taught and practised by its best representatives in America." The aim of an encyclopædic work such as this, should be the presentation of a mass of reliable information on the various medical topics, arranged in such an orderly manner that the reader, seeking for details on any subject, can obtain therein a digest and summary of the facts relating to it. From a careful review of this volume we should say that these conditions have been fairly well fulfilled. The articles, on the whole, represent the position of existing knowledge regarding the subjects of which they treat, and not viewed simply in the light of the personal experience of the writers, but broadly dealt with, embodying the collective experience of the profession.

The articles contained in this volume are contributed by twenty-one authors in various parts of the country.

The important introductory section on General Morbid Processes is by Professor Fitz, of Harvard, who presents an able summary of the facts relating to inflammation, the degenerations, tumors etc., rather too Teutonic in tone; but perhaps that is unavoidable in dealing with subjects in which our German colleagues are such masters.

The article on General Etiology and Diagnosis is from the pen of Dr. Henry Hartshorne.

On the subjects of Hygiene, Drainage, and Sewerage, the Editor has been, indeed, fortunate in obtaining the coöperation of the greatest living authorities, Dr. Billings and Mr. George Waring, Jr., whose articles, of a most practical and useful character, will be very highly appreciated.

Typhoid and Typhus Fevers are dealt with by Dr. James H. Hutchinson, of Philadelphia. One hundred pages are occupied in the consideration of the former disease, and the author has brought to his task a large personal experience, wide and extensive reading, and sound critical judgment, and the article is certainly one of the most important contributions to the volume.

The exhaustive and able paper on Relapsing Fever, by the Editor, is the outcome of one of the few careful studies of this interesting disease which have been made in this country.

The Variolous Affections are considered by Dr. Hyde, of Chicago; Scarlet Fever, by Dr. J. Lewis Smith, of New York; and Diphtheria by Dr. Jacobi, of New York, The names of these authors guarantee the character of the articles.

The late Dr. Bemiss, of New Orleans, contributed the papers on Malarial Fevers and Yellow Fever.

The article on Cholera, by Dr. Stillé, will be read with much interest in view of its possible visitation this year. The recent investigations of Koch are incorporated, but the author is non-committal on the subject. He is clear enough, however, in the question of the importance of quarantine, on which there is at present so much difference of opinion.

Professor Law, of Cornell, has written upon Rabies, Glanders, and Anthrax; Dr. Lusk, of New York, on Puerperal Fever; Dr. J. C. White, of Boston, on Leprosy; Dr. J. C. Wilson, of Philadelphia, on the Plague and Influenza; Dr. Keating, on Mumps and Whooping-cough; Dr. Watson, of Jersey City, on Pyæmia and Septicæmia; and there are articles by Hardaway, of St. Louis; F. P. Foster, of New York; Schmidt, of New Orleans; and Simmonds, of Yokohama.

Although the issue of this volume has been somewhat delayed, most of the articles are well up to date, and contain references to the most recent researches. The concluding article on Beri-Beri seems stale, and it is a pity there is no reference to the observations of Scheube and others. No mention either, is made of the occurrence of the disease in the Sandwich Islands, commercially so closely connected with this country.

It could not be expected that the articles should be of equal value, but on the whole the work has been well done, and if the succeeding volumes maintain the same standard they will greatly enhance the reputation of American Medicine.

It seems particularly appropriate that this great work, perhaps the most important American medical publication ever undertaken, should appear during the centennial year of the existence of the publishing house of Lea Brothers & Co.

SOCIETY PROCEEDINGS.

CINCINNATI ACADEMY OF MEDICINE.

Stated Meeting, March 9, 1885.

The President, Samuel Nickles, M.D., in the Chair.

Dr. J. T. Whittaker opened a discussion on

ILEUS TREATED BY WASHING OUT OF THE STOMACH,

by remarking that ileus is not a very rare disease, as is shown by the fact that it is so often the subject of dis-

cussion in medical societies. Leichtenstein says that one death in every three to five hundred is from obstruction of the bowels, and Treves states that two thousand people die of it every year in England. The intense suffering which its victims endure makes it a subject of interest to the profession, and makes welcome any contribution to its therapy. Yet the speaker saw a case recently in which the suffering was not of marked severity, although it proved fatal. About three weeks ago, he was called to a village in the vicinity to see an individual suffering from constipation. He had, however, been in the habit of becoming constipated at frequent intervals for a year and a half. He had also been a victim of dysentery. From this history the speaker concluded that the case was one of stricture. He was a robust man forty years of age; he had no fever and but little pain. He suffered rather from an uneasiness which led him to get in and out of bed almost constantly, and to make efforts every half hour or hour to evacuate the bowel. There was some jaundice present; but not marked emaciation. The most prominent symptom was vomiting. Every fifteen or twenty minutes he discharged a quantity (usually two or three ounces) of a dark fluid which was glutinous, but had no stercoraceous odor. The abdomen was perfectly flaccid, so that the anterior wall could be pressed down upon the vertebral column without difficulty.

Examination of the rectum revealed nothing in the nature of a stricture, even when the hand was partially introduced. An attempt was then made to wash out the bowel, when it was found that only about a pint and a half of fluid could be injected, and that this returned without bringing along with it any fecal matter. This had been done before his arrival by Dr. Highland, the attending physician, with the same result, and mild laxatives had been administered without result. Having seen great benefit in these cases from the washing out of the stomach, the speaker had taken a stomach-pump with him. He introduced it, and just as the slight constriction at the cardiac orifice of the stomach was overcome, there was a gush of a pint or a pint and a half of the dark brown fluid to which he had referred, coming up beside the tube. He got no fluid through the pump, and proceeded to wash out the stomach. The patient was greatly relieved, the vomiting ceased and on the next day he had an operation. Two days after, however, the speaker was again called and found the patient in about the same condition as at his former visit. He again washed out the stomach. During the preceding day, a severe hiccough had developed, for which the physician in attendance had given opium in small doses without succeeding in allaying the difficulty. The dose of opium was now increased, with the effect of putting a stop to the hiccough. In order to make more certain the relief of the constipation, the patient was now placed upon his hands and knees, and the rectal tube was again introduced. About eight inches from the anus there was encountered a feeble constriction which was easily overcome. Three or four pints of fluid were easily injected, but when the tube was removed only a half pint of it came away. The end of the tube was coated with a little rose-colored mucus. After this procedure, everybody was hopeful, and the patient became cheerful in the belief that the stricture had been overcome. The speaker did not see the patient again, but a few days after his visit he observed in a daily paper a notice of his death. He had not been informed of the immediate cause of death, but was of the opinion that it had been due to a perforation of the intestine, probably at the site of an ulceration.

It is not usually difficult to recognize in these cases the character of the obstruction. It would be very extraordinary, in the first place, to find an invagination in a man forty years of age. This is rather a disease of childhood. Brinton has shown us that of 100 cases of bowel-obstruction, 43 are due to intussusception, 27 to strangulation, and 17 to stricture. There is not in most cases much difficulty in determining the seat of the stricture, where that is present. An internal strangulation is not so easy to recognize. Generally, however, we come upon the localization of stricture without much difficulty. In the case reported the stricture was recognized by the introduction of the tube, and that is the manner in which it can be reached in most cases. Brinton's statistics show that in 100 cases, 4 are in the cæcum, 10 are in the ascending colon, 11 in the transverse colon, 14 in the descending colon, 30 in the sigmoid flexure, and 30 in the rectum.

After making the diagnosis of stricture, it is customary to attempt to relieve it first by the administration of mild laxatives, then we try opium. Opium has been said to be the best cathartic in obstruction of the bowels. By it we put the bowel at rest and allow natural peristalsis to overcome the constriction. Every one knows the danger of administering drastic cathartics. Opium, however, only obtunds and subdues the violent impression upon the nervous system. After everything has failed, we try operative procedure, but we are all aware of the great danger of this operation. We do not, in reality know the exact mortality of the operation, because the majority of the cases are not published. The speaker had been cognizant of several fatal cases that were never reported, and if the truth could be known, he thought that the mortality would reach above 63 per cent., as given by Treves. After opium has failed, we are left, he believed, with a disease for which there is no remedy.

Kussmaul, has recently reported four cases treated by what he termed a new method, namely, by washing out the stomach. Two of these cases were necessarily fatal, one being cancer, the other tuberculosis. Kussmaul, in his treatment, introduced the stomach-tube, then poured water in through a funnel, applying the treatment every day. He found that with each washing a large quantity of matter is evacuated, the patient at once ceases to vomit, and the collapse is greatly relieved. In some cases a cure has been obtained. Since his report, in November, 1884, cases have been reported by Cahn, Rosenthal, Fraenkel, Senator, and others. Senator, of Berlin, reported a case in which recovery was obtained after collapse had come on. He had been treating the case with opium, and seeing the report of Kussmaul, concluded to try that method of treatment. The individual at once improved and progressed favorably until the tenth day, when there was a relapse; the patient sank into a gradual collapse and died.

It was found upon autopsy that tuberculosis had been the cause of death. This case was reported to the Berlin Academy, and a discussion held upon it. Fraen-

kel's case recovered after obstipation of seventeen days. Rosenthal reported a case where three years before, a woman had been treated for gall-stone colic, by washing out the stomach, the first relief having come on after spontaneous vomiting. Rosenthal also reported a precisely similar case, since treated in the same manner. Since that time other cases of obstruction have been reported. No cause has been reported in which palliation of the symptoms was not obtained. Many cases did not recover because in some of them recovery would have been an impossibility. The practice is becoming established, and in the opinion of the speaker there was no doubt that other successes would follow.

In regard to the *modus operandi* of the method, he said a number of explanations had been made, none of which was quite satisfactory to the gentlemen who had propounded them. The first explanation is that by the emptying of the stomach of large quantities of fluid and gas, room is given in the abdomen for the movement of the intestines. In most cases the abdomen is distended with gas, so that there is no opportunity for the occluded gut to move about. The second explanation is that when we pump out the stomach we not only evacuate the contents of the stomach, but also of the intestinal canal.

The investigations of Oser in 1879, show that there is pyloric incontinence in these cases. The stercoraceous vomiting would also prove the truth of this. Oser proved it by experiments on dogs. In relieving the intestine of its great distention we give it an opportunity to unlock itself. Further, in chronic cases good is done by washing out the stomach because it allows the food to be absorbed and thus to increase the nutrition of the patient. The main advantage, however, according to Kussmaul, is that by removing the irritating matter from the stomach and intestine we substitute natural gentle peristalsis, for tetanus and spasm, and thus allow natural motions to take place.

Senator and Ewald were not satisfied with this explanation, however, the speaker continued, and appealed in their theory to the nervous system. The intestines are supplied, they said, with two sets of nerves, the excitant and inhibitory. Senator thinks that when we remove the contents of the stomach we cause the excitant to get control of the inhibitory nerve centres, and permit them to act in a normal manner. The ominous calm which supervenes upon the tetanus before death shows the predominant control of the inhibitory nerves. In the two cases in which the speaker had tried the remedy, he had found it of great benefit although both were fatal cases. In one case he knew that recovery was impossible, because there was a firm compression of the ileum, and an erosion of the intestinal wall.

The speaker then quoted briefly from the report of the session of the Academy published in the *Cincinnati Clinic*, April 28, 1880, in which it was recorded that he had reported a case treated by this method. In that case he had used the stomach-pump two or three times, and brought the case before the Academy to exhibit what he thought was a triumph in the treatment of ileus. The patient however, died very suddenly from the shock of strangulation, and the speaker was made the subject of considerable comment, having even been charged by a wise newspaper editor with having caused a death by the use of the stomach-pump. He was pleased, however, with the recollection that there were members of the Academy who supported the treatment at the time. One member, he saw by a review of the report, had, commended the treatment, and had even credited him with the originality of its introduction. This however, though he thought it true until lately, he must now disclaim, for in the same report he found recorded the remarks of another member of the Academy, Dr. J. L. Cleveland, who had instituted the same practice in a case of obstruction from perityphlitis treated by him four years before the meeting. Whatever credit is due to this method does not belong to Germany, or any part of it, but to our own country and city, and to members of this Academy.

Dr. J. L. Cleveland remarked that while cases of ileus are not of very frequent occurrence, they are of a character when they occur that tasks the ingenuity of the physician to the utmost. There is no class of cases, he said, in which the physician feels more helpless than in these. If the point of obstruction can be found, it can generally be relieved; but if this cannot be found, we are utterly helpless. We know further, that if the obstruction cannot be relieved the patient will die, and that in the utmost agony, hence the value of any contribution which will enable us to save these patients.

The method proposed, with the explanation given, the speaker thought, had the merit of being at least rational. He had a vivid recollection of the case to which the reporter had referred in the conclusion of his remarks, in which he had made use of this method of washing out the stomach, and had found it of great benefit to the patient. His reason for resorting to the procedure at the time, he said, was the fact that the patient was suffering greatly from distention of the abdomen and from vomiting. The relief which he obtained from it far exceeded what he had anticipated.

Dr. William Judkins reported that, less than thirty days ago, he had made use of the method of treatment under consideration, being led to do so from the recollection of the favorable report of it made to the Academy five years ago. The patient upon whom he used it had not had a stool for five days, and was suffering severe pain in the abdomen. He first gave him hypodermic injections of morphine, which relieved the pain. The next morning, finding the condition about the same as on the previous day, he washed out the stomach. The patient at once vomited a quantity of mucus and fluid upon the introduction of the tube. This was again done in the evening at the request of the patient, on account of the relief it afforded him. Soon after a natural evacuation occurred, and the difficulty ceased.

Dr. G. S. Mitchell expressed surprise at the statement of the reporter, that the abdominal walls were so flaccid in the case he had reported as to permit of their being pressed back against the vertebral column. Tympanites is the rule; and furthermore, in a case of tympanites, there would be more applicability of the explanations given as to the method by which washing out of the stomach could overcome the difficulty. The speaker believed that almost as much good could be done in most cases by introducing the tube into the rectum, and allowing the gaseous contents of the bowel to escape. Washing out the stomach, he added, while frequently prasticed, is not unattended with danger; neither is

the introduction of the tube in all cases free from difficulty.

The speaker then reported the case of a barkeeper who had for a long time suffered from dysentery, when an obstinate constipation set in. When seen by him the individual had been without an operation for only two days, but was suffering intense pain and incessant vomiting. The temperature was 100.5°, and there was slight dyspnœa. He gave him small doses of Rochelle salts. The vomiting was controlled by plain soda water. The laxatives did no good, and he resorted to the subcutaneous administration of morphia. He then introduced an œsophageal tube fourteen inches into the rectum, and introduced two quarts of water. The tube was allowed to remain, and in a short time gas began to escape, and finally the abdomen was reduced to its natural flaccid condition. When the water came away it was accompanied by a small amount of fecal matter. The next day the patient was much worse. His temperature was 101°, and the abdomen was very tympanitic. Collapse soon supervened, and he died in a few hours. The autopsy revealed three constrictions in the colon, above one of which was an ulcer that had perforated into the peritoneal cavity. A small quantity of pus, but no fecal matter, was found in the peritoneal cavity.

Dr. Philip Zenner thought that the difficulty of introducing the stomach-tube and the difficulty of getting water to pass through after its insertion had been overestimated by the last speaker. The patient must assist the operator by the act of swallowing, and when that is done there is no difficulty in its introduction. He had never seen any difficulty in the introduction of water simply by the weight of a column a few feet in height. He thought that the tube could not have been properly inserted if there was any difficulty in getting water to pass through it.

In regard to the comparative value of the introduction of the tube into the stomach, and its introduction into the rectum, the speaker thought that the danger of the latter procedure was much more to be feared than that of the former. Some of the fatal results following that method of treatment, he feared, were due more to the remedy than to the disease. Another danger of popularizing this treatment lay in the fact that by its use other methods of really greater value were lost sight of in the strong hope of recovery based upon the marked amelioration of symptoms which followed its use. The method will be of greater value when we shall have discovered by more thorough investigation in just what cases it is most applicable. In his opinion, the treatment would be most applicable to chronic cases, in which the disease would gradually, but inevitably, lead to a fatal termination. One of the cases of Kussmaul was chronic in character. There are certainly acute cases in which the treatment could be of no benefit at all. He has known cases which terminated fatally within two days after the inception of the attack. In such cases the speaker could see no reason for anticipating any benefit from this method of treatment. While we have in it a method of unquestionable power, it is our duty to endeavor to determine in just what cases it will most advantageously exert that power.

Dr. Thad. A. Reamy stated that he had seen a case of ileus in which the only obstruction was due to an inflammatory band that had run across from the intestine to the pelvic peritoneum low down, and had constricted the bowel in that way. It was in a child that had received an injury six or seven weeks prior to that time. From the injury a circumscribed peritonitis had developed and given rise to the adhesive band. The peritonitis had almost subsided, however, when the obstruction manifested itself. Death occurred one day after its appearance. That was a case, the speaker continued, in which, if its character had been known, surgery would have unquestionably afforded relief. But in such a case there could be no hope for relief from the method under consideration. Still, in a great many cases this treatment will be of benefit. While he thanked the reporter for bringing the subject before the Academy, he thought it was not proper to allow the subject to drop with the impression that had been made with regard to the mortality following operative procedure. If the cases were placed under surgical treatment at an early period, he thought there was no question that the mortality would fall far short of 63 per cent. Washing out the stomach was doubtless highly proper in chronic cases; but in acute cases, in which ordinary methods had failed, a resort to surgical procedure would unquestionably reduce the mortality below 50 per cent. in the present advanced state of abdominal surgery. We need not wait for the statistics, he continued, but we should make the statistics by opening the peritoneal cavity and relieving the obstruction. If, then, the mortality of the operation would not prove much less than it now is, we must assume that there is something in the female peritoneal cavity that gives a tolerance to operative interference that is not found in the male. The operation should be made early, and with the same care as would be exercised in the removal of an ovary.

Dr. Joseph Ransohoff agreed heartily with the last speaker, that the method advanced by Dr. Whittaker would answer in some cases very admirably. He thought it worthy of consideration, however, whether the case reported was one of stricture or simply one of obstruction. He had once been called to see a case which closely simulated one of obstruction, but in which there was nothing but an impaction of gall-stones. Two weeks ago he had been called to see a little boy suffering from constipation, pain, vomiting, tympanites, and a tumor in the groin. The diagnosis of strangulation of the intestine had been made, and the attending physician had made preparations to operate. It was found that it was a case of retained testicle, and the large tumor was due to a hydrocele that had formed around it. After the hydrocele was tapped the testicle descended, the bowels moved, and all the symptoms were relieved.

In reference to the case reported this evening the speaker did not think it nearly so conclusive as the one reported five years ago. That case began with a narraton of the clinical history and terminated with an account of the post-mortem section. The specimen was also presented to the Society showing the occlusion of the gut. In this case these were all wanting. The symptoms would indicate that there was an obstruction of the bowel; the only positive evidence of this, however, was that a slight constriction was met at a point about ten or twelve inches within the rectum. The speaker stated further that he had made the experiment of passing a tube into the rectum a great many times both on the

living subject and in the dissecting-room, and that while in some cases he had succeeded very well, in a large number of cases the tube had failed to pass the sigmoid flexure. A soft tube is particularly apt to bend and remain in the rectum, but a tube that is a little more firm is apt to get caught and remain in the folds of the intestine. When a stricture is to be found in the bowel, there are physical signs that are usually well marked. A stricture does not develop suddenly, but is usually several years in developing. By careful examination of the abdomen by careful palpation there can usually be found a tumor. The diagnosis of stricture in those cases in which none of these symptoms has been detected, must be taken with some doubt. In well-marked cases of constriction the speaker had no faith in the use of the stomach-tube, and, under ordinary circumstances, he had little more faith in the use of the rectal tube.

The speaker further thought the use of the rectal tube was attended with considerable danger, and, in the case reported by a previous speaker, he had been led to inquire whether the finding of pus in the peritoneal cavity might not have been due to the use of the rectal tube. Had fecal matter been also found, such an explanation would have received pretty strong support. In cases in which the symptoms were well marked, he could not comprehend how the use of the stomach-tube could be more than palliative in its character. While its use for the relief of annoying symptoms is proper, he thought that when these symptoms return such methods would be abandoned, and an abdominal section made. If this is made early, he could see no reason why the mortality should be more than 25 or 30 per cent.

Dr. Whittaker, in concluding the discussion, remarked that he did not think the last speaker drew a sufficiently distinct line between acute and chronic, and complete and incomplete strictures. It is not always an easy matter to detect the location of occlusions. In proof of this he called attention to a case he had reported five years ago, in which, although a strangulation was found post-mortem, it could not be discovered by the most careful palpation previous to the fatal issue. Nor could the last speaker, who made the post-mortem, detect it until the abdomen had been opened and the intestine searched. As in the majority of cases, so in this, the failure was due to the presence of a thick layer of adipose tissue in the abdominal walls. He strongly objected to the ground just taken, that the use of the stomach-tube could be only palliative, inasmuch as some of the cases that have been reported have been unquestionably cured. That a case should be cured by removing the liquid and gaseous contents of the stomach and intestine is not a matter of surprise when we reflect that some cases are relieved simply by puncturing the intestine through the abdominal wall. The point of most value, however, is the comparative innocuousness of the stomach-tube; on this the speaker wished the more to insist, because one of the members had spoken of the dangers attending its use. There is, it is true, danger in the use of the rectal tube; but thus far there has not been reported a case in which damage was done by the stomach-tube, unless in cases of ulcer. The reports of Haenisch show that the tube causes but a slight abrasion of the mucous membrane, which quickly heals. The speaker agreed with the member who had stated that there is sometimes difficulty in the introduction of the stomach-tube. He had experienced this in some cases, particularly with the soft tube. In these cases he thought it better to use the firmer tube belonging to the stomach-pump. When this is warmed and carefully introduced, there is usually no difficulty. He had, however, never found any difficulty in getting water to enter after the tube was inserted. In regard to the more acute cases he said that the treatment he had proposed would be of as much avail in them as in the more chronic. There are cases which terminate fatally within eight hours, under the so-called shock of strangulation. In these cases opium would be a necessary adjunct. The first benefit of washing out the stomach is in relieving the vomiting. In this regard its effect is marvellous. The effect is shown even in the countenances and comments of those who witness the treatment; but the effect on the patients themselves is almost beyond words. There is nothing so horrible as a case of acute ileus,—in fact it entirely deserves its ancient name, "miserere."

CINCINNATI MEDICAL SOCIETY.

Stated Meeting, March 3, 1885.

The President W. H. McReynolds, M.D., in the Chair.

Dr. F. O. Marsh reported the following

UNUSUAL CASE OF SKIN DISEASE.

Mrs. S., German, æt. 47, has resided in America thirty years, is married, and has one son who is a deaf-mute. Patient possesses average intelligence; always enjoyed good health, except an attack of acute rheumatism twenty years ago; gives no history or evidence of syphilis. About two years ago, the present trouble began with pains in the limbs, which were believed to have been of rheumatic origin. About the same time, she noticed spots about the knees, ankles, fingers, and toes, which according to her description were areas o inflammation, at first covered with scales, which were loose at the commencement of the trouble, but subsequently became firmly adherent, forming a horny epithelial deposit, which subsequently scaled off, leaving a raw surface. This process has been repeated on all parts of the body, forming projecting circumscribed accumulations of horny epithelium. The affection has invaded the scalp, again disappearing without leaving any trace of cicatrization or destruction of hair.

At present two or three of the accumulations are to be seen on the inside of the knee, resembling the crusts of rupia. The most remarkable feature, at present, is the condition of the fingers and toes, which have been affected for a year, having become successively involved, the last invasion taking place about nine months ago; all except the thumb and index finger of one hand are affected. The distal phalanges, especially on the dorsal aspect, are capped with an irregular horny deposit, the nails being much elongated and distorted, or hooked. The little finger of one hand is capped down to the middle of the proximal phalanx with a stiff, thick, and parchment-like covering, resembling the finger of a tightly fitting glove. The zone of tissue immediately behind the glove-finger is considerably elevated above its edge and congested, giving the whole the appearance of a tightly fitting finger-stall of parchment cutting into the flesh. The thumb had been similarly affected,

but the patient had pulled off the cap about three months previously. This relic, which she had preserved with considerable pride, I am permitted to present to you this evening. It will be observed that the formation is much more regular than the above description of the other digits would indicate. The cap is about one-twelfth of an inch in thickness, hard and horny, and the body of the nail which has also been desquamated in its normal position is quite regular. A new nail has been formed, though more irregular than the first, showing that the matrix had not been destroyed. The thumb itself, though free from the peculiar deposit, is somewhat constricted in all its dimensions.

There is no pain at present, but the onset of the affection was attended with pain, which, according to the patient's account, must have been excruciating, and lasting for over a week. Circulation in the extremities is very defective, the patient complaining much of the cold. Otherwise the general health seems not to be much impaired, being disturbed by feelings of apprehension and troubled dreams, though the general disposition while awake is cheerful. Almost simultaneously with the skin affection and the rheumatic pains above alluded to, the ankle-joint became affected by an arthritis. At present the knee-joint is swollen and painful, and sleep is disturbed by muscular twitchings of the affected limb. The wrist-joint is also much enlarged, but not painful. The enlargement seems to affect the articular ends of the bones. The skin-covering of each of these affected joints was at the outset the seat of the epithelial affection in a very marked degree. On the palm of the hand where one of the characteristic excrescences had recently been removed could be seen the hypertrophied papillæ of the corium. Close inspection shows the structures laminated, and microscopic examination reveals the growths composed of flattened epithelial cells closely packed. Cleaned with caustic potash and stained with methylene-blue no microörganisms could be seen except the living bacteria of the water used in mounting, Cornu cutaneum I am unable to find described as occurring on the phalanges and affecting the nails, or as being painful. Neither does it seem to correspond in these respects with the usual descriptions of ichthyosis.

DR. DRURY was much interested in the case, though he confessed the disease seemed to him obscure. The history appeared to indicate that the case was one of ichthyosis, though it was certainly a remarkable and unusual manifestation of the disease.

DR. JOHN L. DAVIS said that this case was interesting from the difficulty and uncertainty of diagnosis. At first sight there is the appearance of an obscure or irregular ichthyosis. The scaly nodules in several parts of the body point to this. Though we have here a striking local disease, the speaker regarded it as the outcome of a constitutional malnutrition, the vulnerable point revealing itself in the trophic nerves of the epithelium. While the term onychoptosis or piplonychia is sometimes used to designate a rare affection consisting in a shedding of the nails, it is in reality only a symptom occurring oftenest in the course of certain severe acute diseases, as scarlatina, typhoid fever, pneumonia, etc.; very rarely does it occur as the leading manifestation of disease. He recommended principally constitutional treatment by means of tonics and arsenic.

DR. RAVOLGI thought this case must be regarded as one of ichthyosis. From the report, it would seem that there were two varieties or rather perhaps two degrees of the affection on the fingers—first the parchment-like condition, *ichthyosis macrée*, and the still more intense condition of *ichthyosis cornea* or *I. hystrix*, representing the most exalted condition of the disease.

A remarkable feature in this case is the late period at which the disease appeared.

Authorities are divided on the question of heredity. In most cases the disease develops itself a few years after birth in the form of I. furfuracea subsequently passing through the form of *I. macrée*, and only at a comparatively late period reaching the condition of I. cornea. The epidermis in this affection seems to possess an unusual capacity for keeping up its nutrition; it is not desquamated at the usual period of its life history, but remains adherent, forming at last horny plates which finally fall off, leaving the underlying surface red and heavily pigmented, which may afterward become again covered with the epidermic masses.

There could hardly be any congenital or hereditary element in the etiology of this case, inasmuch as there was no family history of any such affection and the disease had appeared at a very late period. The general history of partial ichthyosis, moreover, generally seemed to indicate that it arose without reference to heredity.

The neuralgic pains which accompanied the affection would indicate that the trouble was of nervous origin, there probably being some accompanying disturbance of the vaso-motor filaments governing the nutrition of the histological elements.

From the studies of Filesius, Simon Bärensprung, and recently of Esoffit, it seems that in this disease the papillæ are enlarged and elongated, and the sebaceous and sudoriferous glands somewhat atrophied and at times cystic.

Ichthyosis has generally an unfavorable prognosis, though the acquired form is more amenable to treatment than the hereditary.

The treatment should consist of, first, the removal of the epidermic plates, which could be facilitated by maceration in alkaline solutions or soap. The use of Vleminckx's solution, containing flowers of sulphur and chloride of lime, might improve the condition of the skin, and prevent the reformation of the scales. Fowler's solution would prove a valuable systemic remedy.

DR. MARSH was inclined to concur in the diagnosis of ichthyosis, but thought some of the conditions were quite unusual, such as the accompanying arthritis, the severe neuralgia, and the affection of the nails, as well as the regularity in form of some of the formations, as in the cast from the thumb. The joint affection, he thought, could hardly be a spinal arthropathy, as there were pain and all the symptoms of a genuine arthritis of a chronic nature. He thought the continued proliferation of epithelium within the firm shell or case of unyielding epithelium first formed would account satisfactorily for the constriction or compressed appearance of the thumb after the cast had been shed. The same constriction would account for the hyperæmic or congested zone at the base of the glove-finger on the little finger, as the venous return was probably obstructed.

The shedding of the nails might throw light on the

pathology of the disease, as such a condition could hardly be due to a glandular affection of the skin alone, as some authorities had claimed ichthyosis to be.

CORRESPONDENCE.

A NEW UREOMETER.

To the Editor of The Medical News.

Sir: In the report of the meeting of the New York County Medical Society, published in your issue of the 28th, is a description of a new ureometer, by Dr. Chas. A. Doremus. Excepting that it has no base, the apparatus described is essentially the same as that devised by myself, and described with figure in the *Comptes rendus*, vol. xcvii. page 1142, November, 1883. The description was republished in the *Zeitschrift für analyt. Chemie*. and in several other German journals, as well as in the *Philadelphia Medical Times*, vol. xiv. page 277, and figures also in the last edition of Da Costa's *Diagnosis*. It has been manufactured and sold by Greiner & Friedrichs, of Stützerbach, since January, 1884, and has been favorably received in Germany.

In October, 1884, I brought it to the notice of the Philadelphia County Medical Society, and described as a modification that might be home-made, the identical tube apparatus without base, now claimed by Dr. Doremus. Either Dr. Doremus has knowingly claimed as his own an apparatus, to the invention of which I am entitled to unquestionable priority, or he has betrayed ignorance of the literature of urine analysis. I highly appreciate Dr. Flint's kind remarks as to the utility of my ureometer.

Very truly yours,

Wm. H. Greene.

3225 Sansom Street, Philadelphia,
March 30, 1885.

NEW INVENTIONS.

AN IMPROVED PALATE-HOOK.

By H. M. Wilson, Jr., M.D.,

physician to the throat and chest department of the baltimore general dispensary.

It is the intention of this simple device to combine traction with the support of the uvula in a more efficient manner then is done in the palate-hook of Voltolini. It consists of a strip of German silver an inch in length by seven-sixteenths of an inch in width, bent five-sixteenths of an inch from its extremity at an angle of about ninety-five degrees. At the distal end of the shorter arm of the angle, on either side, is a short upright an eighth of an inch wide, leaving a deep sulcus between it and the longer arm, the top of which is bent backwards and rounded at the edges to prevent discomfort to the patient. The whole is firmly soldered to a German silver rod and secured to a suitable handle. The hook is easily adjusted and as easily removed, and its shallowness, its relatively higher sides, and the angular relation of its several parts render it more compact and with outward curve of its point, better fulfils the required condition than its prototype. This hook, which is at once recognized as a modification of Voltolini's, causes little inconvenience to the patient and is tolerated wherever the mirror itself is. The instrument is made by Wilms & Co., of this city.

NEWS ITEMS.

NEW ORLEANS.

(*From our Special Correspondent.*)

The Meeting of the American Medical Association.—The local Committee of Arrangements, of which Dr. Samuel Logan is Chairman, is actively engaged in making preparations for the coming meeting of the American Medical Association. This Committee is divided into the following sub-committees:

Committee on Finance: Dr. A. B. Miles, House Surgeon Charity Hospital, Chairman.

Committee on Registration: Dr. S. E. Chaillé, University Building, corner of Common and Baronne Streets.

Committee on Reception and Arrangements: Dr. G. J. Friedrichs, Girod and St. Charles Streets.

The Committee on Finance are making good progress, and hope to raise all the funds required.

The Committee on Registration propose to adopt a new plan for registering physicians and thereby to avoid the delay and confusion, which afforded annoyance at the last meeting. Five or more desks will be provided, and to each will be assigned so many letters of the alphabet, and every physician will be notified by printed posters in hotels and elsewhere, of the location of the desks and where his name must be registered.

The Committee on Reception and Arrangements have not yet selected the hall, but will do so in ample time. The Exposition Authorities offered one of their halls, but after due consideration it was thought best to decline, since there would be no rooms for the Sections to meet in. The distance too would be a formidable obstacle, to say nothing of the danger, that the surrounding attractions might prove damaging to the success of the meeting. In all probability there will be a Physicians' Day at the Exposition, immediately succeeding the session.

The programme is not yet prepared, but will be ready for publication twenty days before the opening day. To this end, those expecting to read papers are urged to forward them at once to Dr. Samuel Logan, corner of Common and Baronne Streets. Quite a number of papers have already been received.

Mr. Ernest Hart, editor of the *British Medical Journal*, was expected to be here and was invited to address the Association but will not be able to be present. The propriety of giving any excursions is questioned, since it is supposed that the Exposition will absorb the spare time and attention of the visiting members. This, however, will not prevent receptions and private entertainments, of which several are already announced. Visiting members will be fortunate in one respect, there can be no trouble as to reduction of rates. No better terms could be obtained than those now offered to visitors to the Exposition and there will be no necessity of obtaining certificates of membership, every physician can get his ticket at his own city at the reduced rates of one cent per mile and be spared all the trouble heretofore experienced.

The Sanitary Council of the Mississippi Valley recently closed its annual session. It was apparently a very harmonious one and every body was of a repentant and forgiving turn of mind.

Dr. Joseph Holt, President of the Louisiana Board of Health, in his address of welcome, plainly stated that the policy of the Board was to be in full accord with all other health organizations, and acknowledging the right of the interior States to have a voice in matters pertaining to quarantine and infectious diseases of the Mississippi Valley.

The Health of New Orleans.—New Orleans was never healthier than at present and the outlook is favorable for a continuance during the summer, for all our health organizations are in accord and working well together. It has had one disadvantage that citizens do not think it is so necessary to supply the Auxiliary Sanitary Association with funds since the Board of Health has been reorganized. A scientific quarantine is to be tried this summer; if it works well, it will solve a great problem and enhance Dr. Holt's reputation a hundredfold.

MONTREAL.

(From our Special Correspondent.)

Preparing for Cholera.—A meeting of the Medical and Hygienic Societies was held on 18th of March, for the purpose of drafting resolutions to be sent to the Federal and Provincial Governments relative to cholera. The following resolutions were passed:

That cholera is an infectious disease introduced into the country from foreign parts.

That in the opinion of medical men of experience the present shipping and quarantine regulations are insufficient to prevent its introduction.

It was further adopted that the Federal Government be urged:

1. To adopt and enforce with the utmost stringency the British Medical Shipping Act and such regulations as may be considered requisite concerning emigration and quarantine.

2. To appoint government health officers on board all ocean vessels carrying passengers, who shall be held responsible for the sanitary condition of such vessels and the health of all on board.

The following resolution was also adopted for presentation to the Provincial Government:

That the Provincial Government be urged to adopt a comprehensive measure dealing with public health, which will arm cities and municipalities of the province of Quebec with ample powers to prevent the introduction and spread of contagious and infectious diseases, and that the draft of the bill concerning public health already prepared and in possession of the health office be forwarded to the Government with suggestions for the preparation of such enactment.

A committee was formed to prepare memorials to the Government, composed of Drs. Hingston, Ross, Cameron, Larocque, Godfrey and Mr. J. L. Archambault. The members of the deputation will be appointed at a subsequent meeting.

The International Medical Congress, Washington, 1887.—The following rules and provisional lists of officers of the Ninth International Medical Congress, to be held in Washington, in 1887, are published by order of the Executive Committee.

Rules.—1. The Congress will be composed of members of the regular medical profession, and of such persons as may be specially designated by the Executive Committee, who shall have inscribed their names on the Register of the Congress, and shall have taken out their tickets of admission. As regards foreign members, the above conditions are the only ones which it seems, at present, expedient to impose.

The American members of the Congress shall be appointed by the American Medical Association, by regularly organized State and local medical societies, and also by such general organizations relating to special departments and purposes, as the American Academy of Medicine, the American Surgical Association, the American Gynecological, Ophthalmological, Otological, Laryngological, Neurological, and Dermatological Societies, and the American Public Health Association; each of the foregoing Societies being entitled to appoint one delegate for every ten of their members.

All Societies entitled to representation are requested to elect their Delegates at their last regular meeting preceding the meeting of the Congress, and to furnish the Secretary-General with a certified list of the Delegates so appointed.

2. The work of the Congress is divided into nineteen Sections.

3. The general meetings will be reserved for the transaction of the general business of the Congress, and for addresses or communications of scientific interest more general than those given in the Sections.

4. Questions which have been agreed upon for discussion in the Sections shall be introduced by members previously nominated by the Officers of the Section. The members who open discussions shall present, in advance, a statement of the conclusions which they have formed as a basis for debate.

5. Notices of papers to be read in any of the Sections, together with abstracts of the same, must be sent to the Secretary of that Section before April 30, 1887. These abstracts will be regarded as confidential communications, and will not be published until the meeting of the Congress. Papers relating to questions not included in the list of subjects suggested by the Officers of the various Sections will be received. Any member, after April 30, wishing to bring forward a subject not upon the programme, must give notice of his intention to the Secretary-General at least twenty-one days before the opening of the Congress. The Officers of each Section shall decide as to the acceptance of any communication offered to their Section, and shall fix the time of its presentation. No communication will be received which has been already published, or read before a Society.

6. All addresses and papers, read either at General Meetings or in the Sections, are to be immediately handed to the Secretaries. The Executive Committee, after the conclusion of the Congress, shall proceed with the publication of the Transactions, and shall have full power to decide which papers shall be published, and whether in whole or in part.

7. The official languages are English, French, and German.

In the Sections no speaker will be allowed more than ten minutes, with the exception of readers of papers and those who introduce debates, who may occupy twenty minutes.

8. The Rules, Programmes, and Abstracts of Papers will be published in English, French, and German.

9. The Officers of the General Committee on Organization are a President, such number of Vice-Presidents as may hereafter be determined on, a Secretary-General, and a Treasurer, and those elected to these positions will be nominated by the General Committee to hold the same offices in the Congress. All vacancies in these offices shall be filled by election.

10. There shall be an Executive Committee, to be composed of the President, Secretary-General, and Treasurer of the General Committee, the Chairman of the Finance Committee, and of four other members to be elected by the General Committee. The duties of the Executive Committee shall be to carry out the directions of the General Committee, to authorize such expenditures as may be necessary, and to act for the General Committee during the intervals of its sessions.

11. There shall be a Standing Committee on Finance, to be appointed by the President, subject to the approval of the Executive Committee. The Chairman of the Finance Committee shall be *ex-officio* one of the Vice-Presidents of the Congress, and also a member of the General and Executive Committees. The Treasurer shall be *ex-officio* a member of the Finance Committee.

12. Presidents of the Sections shall be *ex-officio* members of the General Committee.

13. The Committee on Organization of each Section shall be composed of a President, such number of Vice-Presidents as may be deemed expedient, of one or more Secretaries, and of members forming a Council.

The preliminary organization is as follows:

President, Austin Flint, Sr., M.D., of New York.

Vice-Presidents: Henry I. Bowditch, M.D., of Boston; Henry F. Campbell, M.D., of Augusta, Ga.; Nathan S. Davis, M.D., LL.D., of Chicago; R. Palmer Howard, M.D., of Montreal; Levi C. Lane, M.D., of San Francisco; Tobias G. Richardson, M.D., of New Orleans; Alfred Stillé, M.D., LL.D., of Philadelphia; The Chairman of the Committee on Finance; The President of the American Medical Association; The Surgeon-General of the United States Army; The Surgeon-General of the United States Navy.

Secretary-General, John S. Billings, M.D., LL.D., U.S.A., of Washington.

Treasurer, John Mills Browne, M.D., U.S.N., of Washington.

General Committee: Robert Battey, M.D., of Rome, Ga.; Clarence J. Blake, M.D., of Boston; Henry P. Bowditch, M.D., of Boston; Samuel C. Busey, M.D., of Washington; James R. Chadwick, M.D., of Boston; J. M. Da Costa, M.D., of Philadelphia; John C. Dalton, M.D., of New York; W. W. Dawson, M.D., of Cincinnati; Francis Delafield, M.D., of New York; George J. Engelmann, M.D., of St. Louis; William A. Hardaway, M.D., of St. Louis; I. Minis Hays, M.D., of Philadelphia; David L. Huntington, M.D., U.S.A., of Washington; Abraham Jacobi, M.D., of New York; Hosmer A. Johnson, M.D., LL.D., of Chicago; Christopher Johnston, M.D., of Baltimore; R. A. Kinloch, M.D., of Charleston, S. C.; George M. Lefferts, M.D., of New York; Joseph Leidy, M.D., LL.D., of Philadelphia; S. Weir Mitchell, M.D., of Philadelphia; Henry D. Noyes, M.D., of New York; Thaddeus A. Reamy, M.D., of Cincinnati; Thomas F. Rochester, M.D., of Buffalo; Lewis A. Sayre, M.D., of New York; Jonathan Taft, M.D., of Cincinnati; W. Chew Van Bibber, M.D., of Baltimore; Horatio C. Wood, M.D., of Philadelphia; David W. Yandell, M.D., of Louisville, Ky.

Executive Committee: I. Minis Hays, M.D., of Philadelphia, *Chairman;* The President; The Secretary-General; The Treasurer; The Chairman of the Finance Committee; Samuel C. Busey, M.D., of Washington; Abraham Jacobi, M.D., of New York; Christopher Johnston, M.D., of Baltimore.

Standing Committee on Finance, William Pepper, M.D., LL.D., of Philadelphia, *Chairman.*

[The organization of this Committee will be announced hereafter.]

Section I.—Medical Education, Legislation, and Registration.—*President*, Henry P. Bowditch, M.D., of Boston. *Vice-Presidents:* Stanford E. Chaillé, M.D., of New Orleans; Alfred Stillé, M.D., of Philadelphia. *Secretaries:* Samuel J. Mixter, M.D., and William P. Whitney, M.D., of Boston.

Section II.—Anatomy. *President*, Joseph Leidy, M.D., LL.D., of Philadelphia. *Vice-President*, Samuel Logan, M.D., of New Orleans. *Secretaries*, William W. Keen, M.D.; George E. De Schweinitz, M.D., of Philadelphia.

Section III.—Physiology. *President*, John C. Dalton, M.D., of New York. *Vice-Presidents:* James F. Hibberd, M.D., of Richmond, Ind.; H. Newell Martin, M.D., of Baltimore; Middleton Michel, M.D., of Charleston, S. C. *Secretary*, John G. Curtis, M.D., of New York.

Section IV.—Pathology. *President*, Francis Delafield, M.D., of New York. *Vice-President*, William Pepper, M.D., LL.D., of Philadelphia. *Secretaries:* Theophile M. Prudden, M.D., of New York; William H. Welch, M.D., of Baltimore.

Section V.—Medicine. *President*, J. M. Da Costa, M.D., of Philadelphia. *Vice-Presidents:* Alfred L. Loomis, M.D., LL.D., of New York; James B. McCaw, M.D., of Richmond, Va.; Richard McSherry, M.D., of Baltimore; Alonzo B. Palmer, M.D., LL.D., of Ann Arbor, Mich.; Thomas F. Rochester, M.D., of Buffalo. *Secretary*, William Osler, M.D., of Philadelphia.

Section VI.—Surgery. *President*, David W. Yandell, M.D., of Louisville. *Vice-Presidents*, D. Hayes Agnew, M.D., LL.D., of Philadelphia; William T. Briggs, M.D., of Nashville; Samuel W. Gross, M.D., of Philadelphia; W. H. Hingston, M.D., of Montreal; R. A. Kinloch, M.D., of Charleston, S. C.; Edward M. Moore, M.D., of Rochester, N. Y.; Lewis A. Sayre, M.D., of New York. *Secretary*, John Collins Warren, M.D., of Boston.

Section VII.—Obstetrics. *President*, Thaddeus A. Reamy, M.D., of Cincinnati. *Vice-Presidents*, William T. Howard, M.D., of Baltimore; R. B. Maury, M.D., of Memphis; John C. Reeve, M.D., of Dayton, O.; Albert H. Smith, M.D., of Philadelphia. *Secretary*, Paul F. Mundé, M.D., of New York.

Section VIII.—Gynæcology. *President:* Robert Battey, M.D., of Rome, Ga. *Vice-Presidents:* William

H. Byford, M.D., of Chicago; Thomas Addis Emmet, M.D., LL.D., of New York; Henry P. C. Wilson, M.D., of Baltimore. *Secretaries:* James R. Chadwick, M.D., of Boston; George J. Engelmann, M.D., of St. Louis.

Section IX.—Ophthalmology. *President*, Henry D. Noyes, M.D., of New York. *Vice-Presidents:* William Thomson, M.D., of Philadelphia; E. Williams, M.D., of Cincinnati.

Section X.—Otology. *President*, Clarence J. Blake, M.D., of Boston. *Vice-Presidents:* Charles H. Burnett, M.D., of Philadelphia; H. N. Spencer, M.D., of St. Louis.

Section XI.—Dermatology and Syphilis.—*President*, William A. Hardaway, M.D., of St. Louis. *Vice-Presidents:* Louis A. Duhring, M.D., of Philadelphia; James Nevins Hyde, M.D., of Chicago; James C. White, M.D., of Boston. *Secretary*, Arthur Van Harlingen, M.D., of Philadelphia.

Section XII.—Nervous Diseases and Psychiatry. *President*, S. Weir Mitchell, M.D., of Philadelphia. *Vice-Presidents:* Charles F. Folsom, M.D., of Boston; John P. Gray, M.D., LL.D., of Albany, N.Y.; J. S. Jewell, M.D., of Chicago. *Secretary*, Charles K. Mills, M.D., of Philadelphia.

Section XIII.—Laryngology. *President*, George M. Lefferts, M.D., of New York. *Vice-President*, Frederick I. Knight, M.D., of Boston. *Secretary*, D. Bryson Delavan, M.D., of New York.

Section XIV.—Public and International Hygiene. *President*, Hosmer A. Johnson, M.D., LL.D., of Chicago. *Vice-Presidents:* Ezra M. Hunt, M.D., of Trenton, N. J.; John Berrien Lindsley, M.D., LL.D., of Nashville; James E. Reeves, M.D., of Wheeling, W. Va.

Section XV.—Collective Investigation, Nomenclature and Vital Statistics. *President*, Nathan S. Davis, M.D., LL.D., of Chicago. *Vice-Presidents*, Jerome Cochran, M.D., of Mobile; Edwin M. Snow, M.D., of Providence, R. I. *Secretary*, James F. Todd, M.D., of Chicago.

Section XVI.—Military and Naval Surgery and Medicine. *President*, David L. Huntington, M.D., of U. S. Army. *Vice-Presidents:* Frank H. Hamilton, M.D., LL.D., of New York; Hunter McGuire, M.D., of Richmond, Va.; S. P. Moore, M.D., of Richmond, Va.; William E. Taylor, M.D., U. S. Navy (retired). *Secretary*, Benjamin F. Pope, M.D., U. S. Army.

Section XVII.—Practical and Experimental Therapeutics. *President*, Horatio C. Wood, M.D., of Philadelphia. *Vice-Presidents:* Robert T. Edes, M.D., of Boston; F. Peyre Porcher, M.D., of Charleston, S. C. *Secretaries:* Edward T. Reichert, M.D., Robert Meade Smith, M.D., of Philadelphia.

Section XVIII.—Diseases of Children. *President*, Abraham Jacobi, M.D., of New York. *Vice-Presidents:* Samuel C. Busey, M.D., of Washington; J. Lewis Smith, M.D., of New York. *Secretary*, Thomas M. Rotch, M.D., of Boston.

Section XIX.—Dental and Oral Surgery. *President*, Jonathan Taft, M.D., of Cincinnati. *Vice-Presidents:* W. W. Allport, M.D., of Chicago; William H. Dwinelle, M.D., of New York; Jacob L. Williams, M.D., of Boston. *Secretaries*, Edward A. Bogue, M.D., of New York; George H. Cushing, M.D., of Chicago.

In addition to the above, the organization of each Section includes a Council.

Clinical Teaching at the Children's Hospital.—We are informed that arrangements are being perfected at the Children's Hospital, Philadelphia, for the delivery of clinical lectures upon the medical and surgical diseases of children, and upon diseases of the eye and ear. A lecture room has been arranged, and lectures will be given on Wednesdays and Saturdays after May 1.

The material is abundant, and such a course as is proposed can hardly fail to be of benefit to those who attend it.

New York State Medical Association, Fifth District Branch.—The second special meeting of the Fifth District Branch will be held in Poughkeepsie on Tuesday, May 19, 1885.

Fellows desiring to contribute papers, notes, or remarks on any subject of interest, are requested as soon as convenient, to notify the Secretary, E. H. Squibb, M.D., 36 Doughty Street, Brooklyn.

Sir Henry Thompson has recently written a clever novel called "Charley Kingston's Aunt," which has attracted considerable attention abroad.

Violation of Professional Secrecy.—Rumors deemed false having been circulated as to the cause of the death of the great painter, M. Bastien Lepage, Dr. Watelet, his medical attendant, wrote to the *Matin*, stating what, in his opinion, was the true cause. The *Temps* has recently announced that a prosecution *ex-officio* of Dr. Watelet is being undertaken for violation of professional secrecy, and against the *Matin* as his accomplice in the misdemeanor.—*Lancet*, March 7, 1885.

Official List of Changes in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from March 24 to March 30, 1885.

Taylor, M. K., *Major and Surgeon.*—Granted leave of absence for one month, to take effect about April 15th.—*S. O. 40, Department of Missouri*, March 21, 1885.

Howard, Valery, *Captain and Assistant Surgeon.*—Leave of absence extended one month.—*S. O. 65, A. G. O.*, March 21, 1885.

Hall, Wm. R., *Captain and Assistant Surgeon.*—Granted leave of absence for one month and fifteen days, to take effect when his services can be spared.—*S. O. 70, A. G. O.*, March 27, 1885.

Raymond, H. I., *First Lieutenant and Assistant Surgeon.*—Assigned to duty at Fort Gaston, Cal., as Post Surgeon.—*S. O. 30, Department of California*, March 20, 1885.

Official List of Changes of Stations and Duties of Medical Officers of the United States Marine-Hospital Service, for the Week Ending March 28, 1885.

Battle, K. P., *Assistant Surgeon.*—To proceed to Memphis, Tenn., for temporary duty, March 27, 1885.

The Medical News *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the News *should be addressed to No. 1004 Walnut Street, Philadelphia.*

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. XLVI. SATURDAY, APRIL 11, 1885. NO. 15.

ORIGINAL LECTURES.

SUPRACONDYLOID OSTEOTOMY FOR THE RELIEF OF GENU-VALGUM BY MACEWAN'S METHOD.

A Clinical Lecture delivered at St. Mary's General Hospital, Brooklyn.

BY GEORGE R. FOWLER, M.D.,
SURGEON TO THE HOSPITAL.

GENTLEMEN: We are indebted to Dr. G. B. Banks, of Huntington, L. I., for the very interesting case which I now have the pleasure of presenting to you. The patient, a little colored girl of four and a half years, and up to a year and a half ago healthy and well-formed, in this latter respect being like her brothers and sisters, in several of which she rejoices. When three years of age, she suffered from an attack of measles of some severity, and when convalescing it was noticed that her lower extremities were "out of shape." You will observe that, when she stands erect, the deformity consists of double genu-valgum, together with both anterior and outward tibial curves upon either limb.

You will notice that the inner condyles are in close apposition, while the malleoli are widely separated, by, say, about ten inches. Now, this is not entirely due to the elongated inner condyles, although it must be evident to you that the deformity is in a great measure due to such elongation, since the latter condition is plainly to be seen. The outward tibial curves, however, occupying the lower two-thirds of each bone, contribute somewhat to the wide separation of the feet. The anterior curve in each tibia adds to the child's awkward appearance. Therefore, we have, first, a genu-valgum due to an overgrowth of the inner condyles, either relative or absolute; second, a long outward curve of each tibia; and, third, an anterior curving of the latter likewise.

I regret that I cannot give you the above changes in the order of their occurrence; my belief, however, is that the tibial curves first developed, and that they occurred probably from some peculiarity of position while sitting in bed and convalescing from her illness; and that the genu-valgum, thus initiated, increased upon attempts at walking being made. It has been thought that the muscles, acting upon the softened osseous structures, were the active agents in the production of this class of deformities; but it must be apparent that, at the time when these develop, the muscles are themselves weakened and inactive.

The patient being chloroformed, we will proceed to have her thoroughly scrubbed with soap and water by means of a rather coarse and stiff flesh-brush, and afterwards douched with a warm solution of mercuric bichloride of the strength of 1 to 1000. The rest of the body, as well as the operating-table, will then be isolated from the parts to be operated upon by means of towels wrung out of the bichloride solution. While the house-surgeon is attending to these details, I will briefly call your attention to one or two operative methods other than supracondyloid osteotomy for the correction of genu-valgum. The method known as Ogston's was the first operation introduced, having for its object the "levelling up," as it were, of the articular extremities of the femoral condyles. Recognizing in the elongated inner condyle the key to the deformity in the vast majority of instances, Ogston, of Aberdeen, devised the operation which bears his name, and by means of which he sought to separate the condyle from the shaft by a subcutaneous section with an Adams's saw, and then forcing the detached mass of bone upwards until the articular surfaces of the condyles were sufficiently near to the same plane as to allow the tibia to be brought into proper line. I have operated by this method, and can testify to both the ease with which it can be performed and its gratifying results. The last patient upon whom I operated by this method, however, was a little girl of not quite three years of age, in whom the result at first was perfect; but, as time wore on, a genu-varum or out-knee developed, due, no doubt, to the interference with the epiphysis and consequent arrest of or retardation of growth in the inner condyle. In a correspondence with one of the most eminent of English surgeons, the late Mr. Callender, just before that gentleman's lamented death, in speaking of this case he expressed to me a fear that the very condition which subsequently supervened, would occur. Owing to this very serious objection to Ogston's operation, it should be reserved, if performed at all, for cases occurring in adult life.

Reeves's operation consists in making the section with a chisel instead of a saw, and not perforating the cartilage covering the articular surface of the femur. The condyle is then pushed up in the same manner as after Ogston's section with a saw. It is difficult to conceive how the normal plane of the two condyles can be restored and their articular surfaces brought to the same level without breaking through or tearing the articular cartilage at a point corresponding to the line of section of the bone; in which case it becomes an Ogston's operation, performed with a chisel instead of a saw.

Chiene, of Edinburgh, made a further modification by removing with a chisel a wedge-shaped portion of the inner condyle at or near its junction with the shaft, claiming to keep entirely outside of the joint and above the epiphysis. There is reason to believe, however, that neither of these points can be assured, in which event no advantage is gained over Ogston's method, and a much more tedious and difficult procedure is substituted.

Taking all things into consideration, therefore, it may be stated as a general proposition that if the deformity can be corrected by making the section in such a manner as to keep well above the epiphyseal line and outside of the joint, the simplest method of accomplishing that result should be chosen. The operation known as Macewan's supracondyloid osteotomy seems to fulfil all

these requirements; and it is this operation that I propose to demonstrate to you upon this patient.

It is but just to state that at the last International Medical Congress, held at Copenhagen in August, 1884, in the course of a discussion upon genu-valgum, both Ogston and Chiene publicly abandoned the operations which bear their respective names in favor of the method of Macewan.

Allow me to call your attention to the instruments necessary for the performance of this operation. They consist of a common scalpel, a set of Macewan's osteotomes, a medium-sized wooden mallet, such as is used by cabinet-makers, and an oil-silk pillow filled with sand, the latter sublimated after the manner of Kümmel, of Hamburg. The object in having the sand sublimated is to avoid contamination of the parts should the pillow become, by any mischance, punctured or bursted, and its contents spilled. The osteotomes of Macewan, although not absolutely necessary, for almost any long, apering osteotome will answer, are undoubtedly the very best instruments for the purpose. There are three of them, and if you will examine them you will perceive that they differ in the character of their wedge shape or taper. The object of this difference is to facilitate the making of the section by withdrawing the one having the broadest base (which is first used) should it become wedged or jammed in the bone, and substituting one having a medium amount of taper, which will work freely in the track previously made by the thicker one. Should this, in its turn, become wedged, it is withdrawn and the one having the least amount of taper used to complete the operation.

The points given by Macewan for the proper performance of the operation are as follows: With the limb extended, ascertain the upper margin of the external condyle, and measure a finger's breadth above the same; draw a line from this point across the anterior surface of the limb, this line to be at right angles to the long axis of the femur, and *not* parallel with the articular surfaces of the condyles. Now draw a line along the inner aspect of the limb parallel with its long axis and about half an inch above the tendinous insertion of the adductor magnus. At the point where these two lines intersect is where the incision is to be made.

Esmarch's bandage having been applied, the child will now be turned slightly upon its side so as to have the limb rest firmly upon the sand pillow, and the operation commenced by driving the knife directly down to the bone at the point just indicated; it is now moved slightly from side to side so as to enlarge the incision, and the osteotome slipped down alongside of it. The knife is now withdrawn, and the osteotome turned a quarter of the way around so as to bring its edge at right angles to the limb, when it is struck a smart blow with the mallet; this first blow being given with sufficient force to drive the instrument well though the exterior hard shell of bone, the extremity of the osteotome being directed toward the point where the first line commenced—*i. e.*, a finger's breadth above the external condyle. A few sharp blows are given, the instrument being made to traverse a fresh path each time across the thickness of the bone, and in a direction radiating, as it were, from the original point of entry; for you will see that I am working all the time through the opening in the exterior shell of bone made by the first blow of my mallet. In this way the entire transverse thickness of the bone is quickly divided, except a small portion immediately anterior and posterior to the first opening; by a few strokes enlarging the latter, this portion is divided. The limb is now firmly grasped above and below the knee, and forcibly straightened; a crunching noise being heard as the femur gives way. Care should be exercised at this stage of the operation, and if the parts do not give way readily, the cause should be sought for in a too limited application of the osteotome; for the exercise of too much force to straighten the limb may lead to either a rupture or overstretching of the external lateral ligament of the knee-joint, and a loose, lateral movement of that articulation occur as a final result.

The wound is now irrigated with the mercuric bichloride solution, and any projecting portions of fat snipped off with a pair of scissors; this, if allowed to remain, interfering with immediate union, and leading to suppuration—a most undesirable circumstance. The edges are now approximated, and a continuous catgut suture used. A little iodoform is dusted over the parts, and a cushion of sublimated paper-wool applied. The tourniquet of the Esmarch bandage is removed, and, no bleeding occurring, the limb is at once encased in a plaster-of-Paris splint.

(The other limb was now operated upon and dressed in a like manner.)

We will now fasten the little one's limbs together and put her to bed, fully assured that if our antiseptic precautions have been thorough, but slight, if any, reaction or disturbance will follow. The tibial curves will be dealt with upon another occasion.

NOTE, JAN. 11, 1885.—Between the second and third day, a slight rise in temperature occurred (100° F.). In a few hours it sank to the normal, and no further rise took place. During the second week, the plaster-of-Paris splints were removed, and a Hamilton's double splint for fracture of the femur in children substituted. To-day, just one month from the day of operation, the dressings from the wounds were removed for the first time; the latter were found to be healed, and but a slight cicatrix marking their site. Passive motion will be practised daily, and for the first few days the limbs will be bound together with a compress of cotton between the knees. After that the child will be allowed to move itself about in bed, and finally to walk with the aid of a chair, pushing the latter before it about the ward.

ORIGINAL ARTICLES.

TWO CASES OF LIGATURE OF THE COMMON CAROTID ARTERY FOR TRIGEMINAL NEURALGIA.[1]

BY JOSEPH C. HUTCHISON, M.D.,
SURGEON TO THE BROOKLYN HOSPITAL.

CASE I.—Daniel C., 45 years old, born in Ireland, and a gold-digger by occupation, entered the Brooklyn City Hospital September 4, 1871, suffering from neuralgia of the left inferior maxillary nerve. His general health had always been good. From 1855

[1] Read before the New York Surgical Society, March 24, 1885.

to 1867 he was engaged in mining in California, and, although much exposed to wet and cold during this time, he was never kept from work by illness. In the autumn of 1867, he was attacked with sharp, stinging pain in the region of the lower jaw, occurring in paroxysms every two or three hours. The paroxysms increased in frequency and severity for the two succeeding years, compelling him to give up work. During this period the three molars and the adjoining bicuspid of the left side of the inferior maxilla were removed, but the removal of the teeth, which were sound, gave no relief.

In the spring of 1871, previous to which time he had been under my treatment for several months with only temporary improvement, the last upper molar of the left side was removed by a surgeon in Boston. The pain ceased, and the case was reported as one of cure.[1] Three weeks after the removal of the tooth the paroxysms of pain returned, and were as severe as before.

When the patient entered the hospital he was somewhat emaciated, and his strength was impaired. Paroxysms of pain, described as stinging, burning, recurred every few minutes day and night. The patient relieved himself somewhat by violent friction with his hand over the seat of pain.

September 6, 1871, Gross's[2] operation of exsection of the alveolar process for neuralgia of the jaw-bones was performed. An incision was made along the edentulous alveolar ridge on the left side of the lower jaw as far forward as the first bicuspid tooth; the soft parts, including the periosteum, were turned aside with a periosteotome, and the alveolar processes were gnawed off with a rectangular gouge forceps to a level with the palatine process. The bone and soft parts seemed to be healthy. No sutures were used. The wound healed rapidly, and the patient was entirely relieved. Twelve days after the operation he was discharged, apparently well, and five months afterward he reported that there had been no recurrence of pain since the operation. The case was again reported as cured; this time by the writer.[3]

He returned to California, and resumed his occupation as a miner. The pain returned in its former severity, but I am unable to state how soon after the last operation. The dental branch of the inferior maxillary nerve was exsected by a California surgeon. This operation relieved him entirely for three years; but whether it was also reported as having cured the patient, I am unable to state.

He again applied to me for treatment in June, 1877, nearly ten years having elapsed since the disease first began. The pain occupied the same locality as before, in his lower jaw, radiating to the corner of his mouth and lips, and occurred in paroxysms of intense severity every half hour. He obtained only temporary relief from electricity and the usual medicinal remedies for this condition, and in desperation implored that operative surgery, which had previously brought him relief, should again be appealed to. For this purpose he was readmitted to the Brooklyn City Hospital, and on June 30, a carbolized catgut ligature was applied to the left common carotid artery. Antiseptic dressings were used. The wound healed by first intention, and after the operation there was prompt and complete cessation of pain. No untoward symptoms occurred, except a slight hoarseness, which continued for a year, and suddenly left him, and he was discharged cured a second time, according to the hospital record, July 16, 1877.

One year and a half after the operation, January 23, 1879, he wrote from California that he was quite well, and entirely free from neuralgia, and I hoped that his untractable enemy was finally subjugated. But I was disappointed. In September, 1883, he again presented himself for treatment, and stated that for three years and eight months after ligature of the common carotid he was free from pain. It then returned, but with less severity, soon after he began to work in damp places. I now advised him to seek employment in a drier atmosphere, and he promised to report himself to me if the pain did not subside. I have not heard of him since.

Case II. *Neuralgia of the first and second divisions of the fifth nerve of thirty years standing. Ligature of the common carotid artery and neurectomy.*—C. N., aged 49, a native of Ireland, and a carpenter by occupation, came under my care at the Brooklyn City Hospital, June 10, 1878, for very severe neuralgia of the first and second branches of the fifth nerve. He stated that March 12, 1848, thirty years before, he was suddenly attacked with severe pain in the right cheek after washing his face in cold water. Previous to that time he had enjoyed good health, and there was no family predisposition to any disease. The pain was very intense, and extended from the right cheek and right side of the nose backwards along the track of the superior maxillary branch of the fifth nerve. He had occasional pain also in the right side of the forehead. The pains were paroxysmal, occurred at short intervals, and were excruciating. He alleges that he was treated at that time by copious bloodletting, and had no more pain for five or six months, when it returned with its former severity, and continued for three years, when he applied to the late Dr. Ackley, of Cleveland, Ohio, for surgical treatment. This eminent surgeon made a long incision through the scalp above the right ear, but the operation gave no relief. He then visited New York and Philadelphia for treatment; various internal remedies were prescribed, but without any benefit, and he was told by Dr. Valentine Mott that he could do nothing for him. September 19, 1856, he sought relief in Bellevue Hospital, and came under the care of the late John A. Lidell, M.D., who at that time reported the case.[1] Dr. Lidell made an incision near the right supraorbital notch, and excised the principal branches of the supraorbital nerves to the extent of about three-eighths of an inch. He then cut down upon the infraorbital filaments near the infraorbital foramen for the purpose of excising them, but the hemorrhage was so free that he was unable to see them, and he contented

[1] Boston Med. and Surg. Journal, vol. viii. p. 82, 1871.

[2] In Transactions of American Medical Association, vol. 21, p. 198.

[3] The American Medical Journal of the Medical Sciences, January, 1874.

[1] New York Journal of Medicine, third series, vol. 1, p. 317.

himself by simply dividing them. These operations gave the patient six months immunity from pain; it then returned as severely as before, when Dr. Lidell opened the infraorbital canal and excised half an inch of the trunk of the superior maxillary nerve. Six days afterwards he was discharged from the hospital relieved, but how long the relief continued is not known. He was next treated by Dr. Willard Parker, Sr., with internal remedies, but received only transient benefit.

This poor fellow entered the Brooklyn City Hospital in 1860, suffering intensely, and a portion of the right superior maxillary nerve was again excised by Drs. George Cochrane and Charles E. Isaacs. The operation gave him relief only until the incisions had healed. He came under my observation June 10, 1878, as before stated, at the Brooklyn City Hospital. He had frequent paroxysms of severe pain, lasting from five minutes to half an hour, and for the last month he states that the paroxysms have been more severe than ever before. His suffering had now extended over a period of thirty years, with occasional intervals of relief after some grave surgical operation. Medical treatment had given him only transient comfort, and he desired that some operation might again be tried to secure him immunity from pain. Encouraged by the result in a previous case, I suggested ligature of the right common carotid artery, and after having explained to him its dangers and the uncertainty of obtaining relief from the operation, he begged that it should be done as speedily as possible. I applied a ligature to the artery June 21, 1878, above the omohyoid. It came away on the nineteenth day. No cerebral symptoms followed the operations, nor were the paroxysms of pain diminished either in frequency or severity in the slightest degree, notwithstanding the liberal use of hypodermic injections of morphine after the operation. I now decided to try excision of the intraorbital nerve again. A semi-elliptical incision was made along the lower border of the orbit down to the bone, and the soft parts were separated by an elevator from the orbital plate of the superior maxillary bone back to its posterior border. It was my intention to divide the nerve where it enters the infraorbital canal at the spheno-maxillary fissure, and then divide it in front where it emerges from the infraorbital foramen, and draw out of its canal the portion of the nerve lying between the sphenoidal fissure and the infraorbital foramen.[1] I found it impossible to do this operation systematically owing to the altered condition of the parts due to former operations, and I contented myself with scraping out the entire contents of the canal, hoping that the canal might be obliterated and take on new bony formation and prevent a recurrence of the excised nerve. The patient was immediately and entirely relieved of pain by the operation, and remained well until he was discharged, August 31. A few days subsequently he presented himself again, and complained of severe pain in the inferior maxillary nerve, extending from the right mental foramen backwards, over the right cheek, which he declares is as intense as his former pains were. I lost sight of him after this.

Recapitulation of the operations.—First case: 1. Removal of the right upper molar tooth was followed by relief from pain for three weeks, although there had been no pain in the course of the superior maxillary nerve at any time

2. Removal of the alveolar process of the lower jaw gave complete relief for more than five months, but how much longer I cannot state.

3. Excision of inferior maxillary nerve relieved the pain for three years.

4. Ligature of the left common carotid resulted in relief from the neuralgia for three years and eight months. No cerebral symptoms followed the operation, and none has appeared after a lapse of nearly four years.

Case second: 1. Incision of the scalp with no benefit.

2. Excision of the branches of the supraorbital nerve near the supraorbital notch, and at the same time incision of the infraorbital filaments of the superior maxillary nerve near the infraorbital foramen, relieved the neuralgia for six months.

3. Removal of half an inch of the superior maxillary nerve from the infraorbital canal was followed by freedom from pain for an unknown period of time.

4. Excision of the superior maxillary nerve in the infraorbital canal was repeated ten years after the last operation, but the neuralgia returned as soon as the incisions had healed.

5. Ligature of the right common carotid, twelve years after the last operation. There was no relief from pain, and no cerebral symptom followed the operation.

6. Removal of the superior maxillary nerve from the infraorbital canal a third time, a little more than ten years since it was last removed. During the two and a half months after the operation that he was under observation he was free from pain, but then began to complain of neuralgia in the inferior maxillary nerve. I now lost sight of him.

The operation of tying the common carotid artery for trigeminal neuralgia, which was first recommended and practised by Nussbaum and Patrubau, has been practised by other surgeons with a fair amount of success. Hüter[1] refers to fifty-four cases, of which three died—5 per cent.—and remarks, incidentally, that the operation was performed after all other treatment, medical and surgical, had failed. Prof. John A. Wyeth[2] has tabulated fourteen cases, one of which was the first case reported in this paper. He classed it among the cured, but the disease returned since the publication of his paper, three years and eight months after the artery was tied. Ferdinand H. Gross, M.D., of Philadelphia,[3] has added one case, and the writer has reported another in this paper. Of these 16 cases, which were quite fully reported, 1 died; 15 recovered; 2 total failures; 8 were cured; 6 temporarily relieved—one for two years, one for three years and eight months, one for four years, one for eight months, one for eleven months, and

[1] This operation was described by Hodgen, of St. Louis. See Transactions American Medical Association, vol. 31, p. 773

[1] Grundriss der Chirurgie, vol. 2, p. 233.
[2] Essays on Surgical Anatomy and Surgery, New York, 1879.
[3] The Amer. Journ. of the Med. Sciences, April, 1883, p. 366.

in one relief was not of long duration. The operation, it seems to me, is worthy of further trial in severe cases which have resisted all other treatment, medical and surgical. It has been suggested that the same results would be accomplished by ligature of the external carotid, where branches supply the trigeminal nerves.

The treatment of trigeminal neuralgia is, it must be confessed, largely empirical in its character. A rational and discriminating treatment must be based upon a more thorough knowledge of the morbid conditions which produce the symptom. Such investigations have thus far been very incomplete.

CASE OF TONIC SPASM OF THE ACCESSORIUS SUCCESSFULLY TREATED BY GYMNASTICS AND MASSAGE.

By H. G. BEYER, M.R.C.S.,
PASSED ASSISTANT SURGEON, U. S. NAVY

Miss L. S. M., thirty-five years of age, consulted me about the first week in April, 1884, concerning some trouble in her neck and head. She said she could not retain her head in the desired position, and complained of more or less severe pain in the back of her neck, somewhat indefinitely located between the posterior upper angle of the left scapula and the vertebral column. She was lying in bed at the time, and had been occupying this recumbent position for several months. On rising, her face would immediately turn toward the left side, her chin at the same time moving slightly upwards, and she could only, by the greatest effort of her will, succeed in turning it in the opposite direction for a moment, when it would immediately return to its former one-sided position, toward the left. The only way she could make herself comfortable was to lie down and keep her head well supported by pillows.

Her father, a very successful and much respected physician of New York State, died of pneumonia; her mother, at an advanced age, died of heart disease. Several of her brothers and sisters are now living and enjoy good health.

She is a highly educated and refined lady of regular habits, having spent much of her life in New York, and has remained free from any serious disease up to date. While yet a child she had the measles, scarlatina, and the whooping-cough. There are no traces of any hereditary or constitutional taint about the patient, so far as can be made out.

In October, 1882, she received news of the sudden death of a gentleman to whom she was soon to have been united in marriage. The shock was so great, and the grief so overpowering, that she was unable to eat or sleep during the following week. On the 22d, the seventh day after receiving this news, while seated at the dinner table, she noticed a twitching movement which was, to use her own words, "quick, sharp, and noticeable as an electric shock."

From this time on it grew gradually worse; and she was constantly obliged to rest her head against the back of a high chair while in a sitting position. Not thinking it very serious, although very annoying, she did not deem it necessary to call in medical aid until April following. Several irregular physicians then were consulted in succession; the trouble, however, grew worse instead of better. She then applied to several prominent nerve specialists of New York City. At this time, July, 1883, she was utterly unable to manage her head by force of will, but was obliged to use her hands to support it in the desired position: the exertion required to do this, made the otherwise constant pain in the back of the neck more severe and intolerable.

From July to October, she was treated by electricity, and hypodermic injections of atropia, made all along the right sterno-cleido-mastoids, taking zinc pills internally. The thermo-cautery was also freely used over the back of the neck. After a three months' course of this most rigorous form of treatment, conscientiously carried out by the most experienced hands of the profession and faithfully submitted to by the hopeful patient, and finding herself growing steadily worse, she lost hope and courage and gave up the treatment in October. She afterwards received magnetic treatment at the hands of a doctor in Geneva, N. Y. This also proved of no avail, and so a number of physicians were consulted without benefiting her in the slightest. Thus, thoroughly discouraged and disheartened, and thinking perhaps that a change of climate might prove beneficial she came to Baltimore, in February. At this time one of her sisters accompanied her. Upon her arrival she spent most of her time in bed, going out only occasionally, deeply veiled, her head held in the middle line by a bandage peculiarly contrived by herself for the purpose. She always returned very much exhausted and resumed her accustomed position in bed. This, in a few words, is the history of the condition I found her in when I first had an opportunity of seeing her, which was about the middle of March, 1884.

This visit was merely a social one, and my professional services were not solicited until about three weeks later, and then only for some trouble which suddenly supervened. The case as it appeared when I was called in, may be briefly described as follows, viz.: Patient was lying in bed, having become very weak and emaciated since the last time I saw her, complaining of severe pain in the epigastric region; this pain was accompanied with a constant, almost uninterrupted retching, and nourishment of any kind could not be retained. In this condition she had been for twenty-four hours previous to the time of my visit. Her pulse was very weak and somewhat increased; temperature was 102° F.,- respiration more frequent than normal, probably from mechanical interference from the constant retching. With perhaps a slight bulging over the epigastric region and a certain amount of pain on pressure, there was nothing abnormal whatever about the abdomen.

She had always been regular and had never had any uterine or ovarian disease; firm pressure over those regions did not produce the slightest discomfort at the time.

The two per cent. hydrocyanic acid was prescribed, and two drops of it ordered to be taken every half

hour. After four doses had been swallowed, the retching grew less and only recurred at much longer intervals. Patient slept a good portion of the night, taking the medicine when awake. The retching ceased entirely twenty-four hours after she first began taking the medicine.

She now asked me to treat her for the spasmodic trouble, which I promised to do on condition that the treatment, which I had already in my own mind dertermined upon, should be faithfully carried out.

I think that no physician, from what has already been said, can doubt that the case in hand was one of *spasm of the spinal accessory nerve* of the right side, and that, moreover, if we have to differentiate between spasm and spasm, it might be called a mild case of *tonic spasm*, originating in a central disturbance of the motor portion of the nerve.

It did not seem to me to be a case of clonic spasm for the following reasons, viz.: Her head would remain on the left side when she was in the sitting posture and, although for a few seconds and by great effort of the will, she could turn it in the opposite direction for a couple of times, the time did arrive when no amount of will-power was sufficient to stay it from turning to the left. On the other hand, it did not present the characters of the condition known as caput obstipum spasticum. It was central in origin, because both the trapezius and sterno-mastoid were involved. It was *not hysterical* in nature, as may well be inferred from the history of the case, and also from the fact that general sensibility over both sides of the body was uniformly normal and the tendon reflexes well marked. The head was turned strongly to the left, the chin raised considerably and the occiput approximated slightly to the right shoulder. Besides this, the left shoulder and clavicle were very much higher when compared with the corresponding shoulder and clavicle of the right side.

There was also a slight lateral curvature of the cervical portion of the spinal column (convexity to the right), due probably to the habit into which patient had fallen—from necessity, of course—of forcibly throwing her head with the left hand, and aided by the spasmodic contractions of the trapezius muscle of the right side. There was a constant pain at the back of her neck, exaggerated when in the upright position for any length of time. While in this latter position the right sterno-cleido-mastoid and trapezius muscles felt firm without being exactly rigid, the corresponding muscles of the left side were flabby and much less prominent even when in active contraction..

Regarding the *etiology* of the trouble in this case, the circumstances point clearly to grief from the loss of her friend. No history of exposure of any kind is given, as she kept closely in her room during the seven days that intervened between the receipt of the sad news and the first beginning of the trouble.

The *treatment* at first was, of course, directed toward improving her general health, without which no local trouble can be expected to yield permanently to any kind of treatment. During the first week, therefore, little was done excepting to regulate her diet on the best principles of nutrition adapted to the needs of her own special case and requirements. At the end of only one week she had gained so much, and felt so much better, that it was deemed advisable to begin a systematic and graduated course of gymnastics and massage. She received one thorough general massage three times a week, and a local one applied to the neck only every day for the first two weeks. For the following two weeks of the treatment general massage was applied twice a week, and local massage to her neck four times a week. The strictest attention to diet was constantly observed: her appetite improving wonderfully during that time. Besides massage she was enjoined to take active exercise, which consisted in swinging a bar, which she grasped with both her hands and threw out in different directions a certain number of times, according to her powers of endurance. While performing this exercise she was directed to look constantly at a certain object a short distance in front of her, and so placed as to keep her head and face in the middle line when looking at it. For the purpose of exercising the lower limbs she was made to pace the floor after the manner which is best calculated to reach all the muscles of the lower extremities, as well as those of the lower portion of the trunk, and keep them all in active exercise. During any and all of these exercises she was never allowed to put her hand to her head to steady it. It required constant reminding to break her of this habit. Whenever she could not keep her head erect, her nose pointing straight forwards, she was told to lie down. This always formed the guide with regard to the length of time the exercise might continue. Twice every day, generally morning and evening, this exercise was superintended by myself, and during it every means was employed to keep the patient in the best possible spirits. She was, however, directed to resume the exercise of both upper and lower extremities during the intervals of my visits, and keep an account of the number of times she had gone through it. From the second week on, she was ordered to take daily walks out of doors, observing the same rules as during in-door exercise. At first she thought it was an impossibility, and it was only after the strongest kind of urging that she consented. From the latter part of the second week her improvement was so rapid that it was not only astonishing to herself, but also to her friends. As she grew better she finally recognized the fact that it was as necessary for her complete recovery to exercise her will as it was to exercise her muscles.

During the last week of my treatment she visited her friends, staying for hours at a time, keeping the movements of her head under perfect control; only now and then, when feeling a little tired, she rested her head against the back of a high chair.

In this condition she left Baltimore to go to the seashore about the first of June, under orders not to give up the exercise and other treatment. I saw her the following September, meeting her on the street, when she looked a perfectly healthy woman. It is now nearly a year ago, and every occasional letter I receive convinces me of the permanent success of this treatment in her case.

DISINFECTANTS.

PRELIMINARY REPORTS OF THE COMMITTEE ON DISINFECTANTS OF THE AMERICAN PUBLIC HEALTH ASSOCIATION.

VIII.

ON THE DISINFECTANT PROPERTIES OF PUTREFACTIVE PRODUCTS.

By CHARLES SMART, M.D.,
SURGEON U. S. A.

It is well known that, when a saccharine liquid undergoing fermentation has attained a certain alcoholic strength, the further growth of the yeast plant is prevented by the action of its alcoholic product. It is, perhaps, equally well known that an inhibition of the acetous fermentation takes place when the liquid has reached a certain percentage of acetic acidity. But it is not so generally known that the bacteria of putrefaction elaborate, as products of their vital action, organic substances that are destructive to the organisms which determined their formation. The ultimate products in the retrogression of albuminous matters by bacterial or putrefactive agency are ammonia and carbonic acid; but a vast number of complex organic substances, concerning which our knowledge is meagre, constitute intermediate steps in the process. One of these, phenol, or carbolic acid, was at the time of its discovery as a product of putrefaction already well known as an antiseptic, and probable disinfectant. Recently E. and H. Salkowski separated from these intermediate products two aromatic acids of the acetic series, hydrocinnamic or phenyl-propionic and phenyl-acetic acid.

Wernich[1] submitted these to experiment, and found that as antiseptics they were superior to carbolic acid, the phenyl-propionic acid being the more active of the two. Klein[2] followed up these researches by an inquiry into their germicidal value. Some of his experiments bear with greater interest on the life history of the organisms subjected to the influence of the acids than on the germicidal value of the latter; but, to complete this series of preliminary papers, it has been deemed advisable to submit a summary of his results.

This able experimenter recognized the difference between antisepsis and disinfection that has been insisted upon in the reports of this Committee. He exposed the organisms that were the subject of the experiment to the action of the acids, and then introduced them into a suitable culture medium; or, if they were of a pathogenic nature, inoculated animals with them,—a failure to cultivate, or a failure to reproduce the disease being respectively in each case the test of a germicidal or truly disinfectant action.

The non-specific organisms subjected to experiment were a small micrococcus derived from the blood of rabbits, a large micrococcus of similar derivation, bacterium termo and *Bacillus subtilis*. An exposure of twenty or twenty-five minutes in a solution of either acid of the strength 1 : 200, failed to destroy the vitality of any of these specimens; the last mentioned, indeed, was not destroyed by an exposure of twenty-four hours.

The pathogenic matters treated were the spores and bacilli of anthrax, the virus of swine-plague, and that of tuberculosis.

Anthrax *spores*, exposed for two or more days in either acid of the strength 1 : 400, were found to have retained their virulence when subsequently injected into guinea-pigs, and to be susceptible of cultivation in culture liquids, with the retention of virulence in their progeny. But, although the spores withstood the influence of the acids, the *bacilli* of anthrax were killed immediately, or as soon as they were thoroughly mixed with this strength of either of the acids. The phenyl-propionic acid, however, was manifestly more efficient, for a dilution of 1 : 800 destroyed the bacilli in ten minutes, while the phenyl-acetic acid under similar conditions failed to accomplish disinfection. Greater dilutions required a longer period to effect the destruction of the bacilli, and in all instances the phenyl-propionic acid showed the greater potency. Thus, while this acid, in the strength 1 : 3200, required from twenty-five to thirty-five minutes to be effective, the phenyl-acetic acid of the same strength required fully thirty-five minutes.

Several other points of interest were developed. It was noted that in greater dilutions than 1 : 400 of either acid, a stronger solution or a longer exposure was required to kill bacilli grown from a previous culture containing spores than those from a culture started from blood bacilli. It was observed further that bacilli cultivated from bacilli of the blood have a greater resistance than the latter, so far as these acids are concerned, for the first week or ten days of the cultivation, but that after this their power of resistance decreases, so that ultimately it becomes even less than that of the original blood bacillus. The fact was also shown that bacilli in the blood of a guinea-pig dead from inoculation with spores have a greater resistance to the influence of the acid than those from an animal dead from inoculation with bacilli.

The virulence of swine-plague, taken directly from an animal dead of the disease, and also that of the artificially cultivated microbe, were destroyed by an exposure of twenty or twenty-five minutes to a phenyl-propionic solution of the strength 1 : 800; weaker solutions were not efficient, and the disinfectant action of the phenyl-acetic acid of this strength was not certain.

The tubercular virus, like the spores of anthrax, resisted the influence of these acids. An exposure of ninety-six hours to a strength 1 : 200 did not prevent the caseous matter of pulmonary tuberculosis from producing its characteristic effects when injected into a guinea-pig. But considerably stronger solutions showed the exercise of an inhibitory power. Bovine virus manifested a greater resistance against the influence of the acids than the tuberculous virus of man.

[1] Virchow's Archiv, vol. 78, p. 51.
[2] Supplement to Thirteenth Annual Report of Local Government Board, London, 1884, p. 111.

IODIDE OF POTASSIUM IN ECZEMA.

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The importance of having at command a number of constitutional remedies which are capable, either directly or indirectly, of exerting a favorable influence in so obstinate a cutaneous disease as eczema, is appreciated by all whose practice calls upon them to treat such cases. Probably the most reliable remedy in the average case of eczema is arsenic; but often enough it fails to have an appreciable effect, and, indeed, not infrequently its action is prejudicial, even in cases in which the probability of its good effects was scarcely questionable.

Iodide of potassium is a remedy, which in a number of cases has rendered me good service, and is one, moreover, that is rarely capable of seriously aggravating the disease, as occasionally happens in the administration of arsenic. With the experience so far at command, it would be impossible to say in what particular class of cases it may be found useful. The impression formed, however, would indicate that it is of greatest advantage in subacute and chronic eczema, in which the inflammation is of a moderate grade. Moreover, it seems to have a greater influence in the eczema occurring in persons otherwise apparently in good health. In fact, if a positive conclusion were yet warrantable, it would be to the effect that the remedy finds its greatest use in those cases in which such tonics as cod-liver oil, iron, and bark, are contraindicated. In broken-down subjects, and especially in cases in which the disease has been superinduced by mental worry and overwork, it seems to have but little value; and in cases in which dyspepsia is the main predisposing cause, it rarely benefits, but, on the contrary, will often aggravate. In eczema of the lower extremities, due in part to a varicose condition of the veins, it has but little influence. Nor is its use confined to the adult. In several remarkably obstinate and relapsing cases of eczema in children, it brought about a permanent cure where other remedies failed to have the slightest effect.

The beginning dose for a child of the age of six months to a year, should be a half grain, increased to a grain, or even to two grains, and given three times daily. In children past the age of one year and under three the dose may be one grain, and increased to three grains; in older children, five-grain doses may be reached with favorable effect. It is best administered to children in water flavored with syrup of orange-peel or ginger; in some cases in which the remedy thus prescribed causes gastric uneasiness, a small quantity of a bitter tincture may be substituted for the syrup with advantage. In the adult, the dose at first should be not more than five grains, three times daily, and later increased, if found necessary. If ten-grain doses fail, it is more than probable that larger doses will also be without effect, or may even aggravate. The remedy is not to be continued if it causes persistent nausea. It is borne much more readily when given in Huxham's tincture, or the compound tincture of gentian, than in syrup mixtures. As a rule, it should be taken well diluted about thirty minutes before meals. There are, of course, exceptions to such a rule. With some persons a dose of medicine before the morning meal excites nausea and vomiting; with such, a dose may be prescribed before the midday and evening meals, and at bedtime. Occasionally it is best borne about two hours after eating. Certainly the remedy seems to have more effect taken when the stomach is empty, provided, of course, it causes no gastric disturbance.

To rely upon any internal treatment exclusively, however, for the relief and cure of an eczema, would mean invariable disappointment. With the potassium iodide, no less than any other remedy, a suitable plan of external treatment is a necessity, if relief is to be expected. Constitutional remedies will often modify the morbid action of the skin so as to promote the favorable effect of external treatment, and render such favorable results permanent; to expect more than this would lead to repeated failures. In conclusion, this particular remedy—potassium iodide—although of great benefit in some cases, will, unfortunately, be found valueless in others.

MEDICAL PROGRESS.

Subcutaneous Injection of Caffeine.—M. Huchard in the *Revue Thérapeutique* of February 15, 1885, suggests the subcutaneous injection of caffeine when its administration by the stomach is contraindicated by its irritating action upon that organ.

The formula he suggests is the following:

R.—Salicylate of soda	. . .	gr. 45.
Caffeine	. . . .	gr. 60.
Distilled water	. . . .	q. s. ad ℥ ½.

From seven to fourteen grains a day may be administered. The injections lower the temperature in typhoid fever, and combat efficaciously the phenomena due to general depression. The diuretic effects of the drug are especially valuable in the last stages of heart disease.

Injection of Blood into the Pleura.—Dr. B. Silva, in *Il Morgagni*, after experimenting on dogs as to the effect of injections of blood into the pleura, gives the following résumé of his results:

1. The pleura absorbs the defibrinated blood as readily as the peritoneum.

2. The uniform result of injections of defibrinated blood into the pleura (the blood of the same species being always injected) is an increase, in from four to five hours, of the hæmoglobin in the red blood-corpuscles. This increase persists beyond the fourth day after the injection.

3. The maximum increase of hæmoglobin is perceptible in the first twenty-four hours.

4. The absorption of hæmoglobin is greater when the injections are small. If the injected blood produce atelectasis, there is frequently no visible increase in the hæmoglobin.

5. Transfusion of blood into the pleura increases the excretion of urea.—*Centralblatt für Gesammte Therapie*, March, 1885.

Presence of Albumen in the Urine after the Administration of Chloroform.—MM. Ferrier and Patin have experimented upon the production of albumen in the urine by the administration of chloroform. Ten experiments in all were performed, and the urine in each was tested before and after the operation. In 6 cases out of 9, albumen was found after, though not before, chloroformization. In the tenth, the quantity of albumen was increased from 9 grains per quart before anæsthesia to 60 grains afterward. This patient died.

In résumé, anæsthesia by chloroform is frequently, but not fatally, followed by albuminuria, thus confirming the experiments of Bouchard, who has observed albumen in the urine of hares after peripheral nervous lesion and after the inhalation of chloroform, even without production of anæsthesia. Under the last condition, hæmaturia has also been observed. M. Ferrier is inclined to attribute the albuminuria to a certain tendency to asphyxia produced by the chloroform.—*Revue de Chirurgie*, Jan. 1885.

Porro's Operation.—Dr. Vincini, on 15th of January, performed Porro's operation upon a rachitic woman. The woman at the time of operation had been in labor twelve hours.

Strict antiseptic precautions were observed, and both mother and child are reported as alive and in good condition.—*Gazzetta Medica di Torino*, Feb. 25, 1885.

Surgical Treatment of Varicocele.—M. Horteloup, at a recent meeting of the *Académie de Médecine de Paris*, advocated the surgical treatment of varicocele. The following are his conclusions as to the operation:

1. The new methods of antiseptic dressing no longer permit a refusal to operate for painful varicocele, and for varicocele whose weight and length render them burdensome to life.

2. Resection of the scrotum and of the veins of the cord is a harmless operation.

3. The operation need cause no fear of atrophy of the testicle, and seems to increase the genital powers.

4. From a surgical point of view, it gives excellent results.

5. It causes the pain to disappear, and obviates the weight and discomfort.

6. It causes a notable diminution of the varicose spermatic veins.

As a dressing M. Horteloup employs lint soaked in carbolized oil. Death has in no case resulted from the operation, and in three cases only has hemorrhage into the scrotum occurred, an accident which is followed by no bad consequences.—*Journal de Médecine de Paris*, Feb. 28, 1885.

Total Extirpation of the Uterus through the Vagina.—On January 17, Professor Bottini performed an operation for total extirpation of the uterus through the vagina.

The patient was forty-two years of age and was suffering from uterine cancer. The growth was very vascular, and had caused severe metrorrhagia, from which the woman had become very anaemic. A myoma also coexisted on the anterior uterine walls. The operation was nevertheless successful, the woman recovering without any sensible rise of temperature.—*Gazzetta Medica di Torino*, March 5, 1885.

Traumatic Cataract; Absolute Disappearance of the Lens and Capsule without Operation; Perfect Vision with (?) Power of Accommodation.—Dr. T. H. Bickerton, in *The Lancet* of March 21, 1885, reports a case of traumatic cataract in which the lens and capsule had entirely disappeared without operation, and in which perfect vision with (?) power of accommodation was present.

Testing showed that not only near vision was perfect, but that at a distance sight was not only good, but of an acuteness beyond the normal.

Two points of interest are present in the case—the idiopathic and complete disappearance of the lens and capsule, and the apparent existence of accommodative power in an eye minus its lens. The first is a pure example of the operation of solution, and the result is that aimed at by every oculist who operates upon a soft cataract. The piece of steel acting the part of the surgeon's needle must have wounded the lens capsule, admitting the aqueous fluid to the lenticular substance. This in its turn would undergo disintegration and eventual absorption, but the process here went further and caused absorption of every particle of the capsule, thus making a perfect result. Though this latter does occasionally occur after operations both on soft and hard cataracts, it is not of common occurrence. Apparent existence of accommodative power in an eye, minus its lens. It is well known that on either side of our strictly mathematical focus for near objects (p.p.) there is a small range of space in which we can see, provided the circles of diffusion are cut off by means of a stenopäic hole, but this space is never very great, and in no experiment that I have made does it extend to six inches. To what, then, can the range for near vision (nearly six and one-half inches) in the present case be ascribed? To accommodation? If so, in what manner does it act?

Double Oöphorectomy.—Professor Spediacchi recently performed double ovariotomy upon a woman affected with hystero-epilepsy which had resisted all treatment.

The operation was entirely successful, and both ovaries were found to be normal. From the time of the operation the convulsions which previously had occurred seven, eight, and ten times daily, ceased, and have not since returned. The mental condition of the patient is also much improved.—*Lo Sperimentale*, January, 1885.

Cocaine Mixture for Relief of Cough and Vomiting in Chronic Pharyngitis.—Jahn, in the *Gazette Médicale de Paris*, of March 14, 1885, recommends the following formula for the relief of the cough and vomiting of chronic pharyngitis:

R.—Cocaine	. . . . .	gr. iss.
Glycerine	. . . . .	f℥ iv.
Aquæ dest.	. . . . .	f℥x ℥ij.
Acidi carbol.	. . . . .	gr. ⅙.—M.

S.—Apply morning and evening with a suitable brush.

Meningocele of the Cranium; Treatment and Cure by Elastic Ligature.—Dr. A. Lazzari, in the *Gazzetta di Torino* of February 25, 1885, reports a case of cranial meningocele successfully treated by elastic ligature. The patient, a child, was first seen when four days old, and there was present over the occipital bone a tumor about the size of an orange. According to the statement of the mother, there had been no increase in its dimensions since birth. The child was normally developed, suckled well, and presented no other physical anomaly. The circumference of the tumor was about ten inches, and its diameter about three inches. The base was much constricted. Examination revealed a deficiency in the bone structure, and pressure showed conclusively that the tumor was in direct communication with the interior of the cranium. Having decided to attempt the operation, by ligature, Dr. Lazzari applied three turns of a small elastic tube about the base of the tumor. The child endured the operation without exhibiting any nervous phenomena, and the night following slept and suckled well. In the morning the tumor had assumed a violaceous hue. The third day the tumor was amputated above the ligature and dressed with iodoform with antiseptic precautions. The twelfth day the pedicle and ligature came away, and on the twenty-second day the wound was entirely healed, the cicatrix having the consistency of fibro-cartilage.

Chloride of Methyl as a Topical Remedy for Pain.—Mm. Tenneson and Bègue at a meeting of the Société des Hôpitaux held February 27, 1885, reported their joint observations on the use of chloride of methyl as a topical application for the relief of pain. They have used the remedy in various diseases, other than sciatica, for which it was first recommended by Debove, with some success. Among the diseases treated, are muscular rheumatism, articular rheumatism, acute or subacute, chronic articular rheumatism, and the pain due to pulmonary tuberculosis, purulent pleurisy, and lobar pneumonia. The success attained has been such as to encourage further trial of the agent.

The writers close their communication with a reference to the accidents which may occur in the application of the remedy. These are prolonged erythema, hyperæsthesia, of the skin, vesication, and eschar. To avoid these bad effects, the use of the remedy must not be prolonged more than five or six seconds, or even a shorter period, in regions where the skin is very delicate. To avoid blistering and eschar, the spray must be directed obliquely, not perpendicularly upon the skin.

Pigmentation, also, sometimes occurs, but it is not so marked as that produced by blisters. Whether it is permanent or in what length of time it will disappear cannot yet be affirmed. — *Gazette Hebdomadaire de Médecine et de Chirurgie*, March 6, 1885.

Report of the German Vaccine Commission.—The Vaccine Commission which a short time since was appointed by the German Imperial Health Society have returned the following report relative to the pathological and physiological basis of vaccination:

1. A single attack of smallpox, with rare exceptions to the contrary, prevents the possibility of a recurrence of the disease.

2. Vaccination offers a similar protection.

3. The length of time during which vaccination is protective against the disease, widely varies, but the average period is ten years.

4. In order to secure protection against smallpox by vaccination, at least two well-developed vesicles must be obtained.

5. Revaccination is necessary at the end of ten years after the first vaccination.

6. Vaccination of a community affords a common protection against smallpox.

7. Vaccination under certain circumstances may be dangerous, inasmuch as by use of human lymph, syphilis may be communicated. This danger is, however, slight, and with ordinary care can be so reduced that the possible harm therefrom is incomparable with the actual protection attained against smallpox.

8. Since the introduction of vaccination there has been no disease or unusual mortality, which, from a scientific standpoint, can be attributed to the effect of the operation.

Experimental Thyroidectomy in Rabbits.—Professor Guido Tizzoni, after much experimental research upon thyroidectomy in rabbits, reaches the following conclusions:

1. Complete extirpation of the thyroid body in the rabbit, is compatible with the life of the animal and produces no change in its health.

2. The functions of the nervous system and the composition of the blood, at least in regard to its richness in hæmoglobin, and the relation between the number of the red and the white blood corpuscles, are not influenced by the removal of this organ.

3. The nutrition and growth are maintained when the operation is performed upon a very young animal.

4 Splenectomy is followed by no graver consequences in animals deprived of the thyroid body than in those from which the organ has not been removed.—*Gazzetta degli Ospitali*, March 28, 1885.

New Method of Administering the Bromide and Iodide of Potassium.—The repugnance with which patients, who for a long time have been under treatment with iodide or bromide of potassium, regard the drugs, and the gastric symptoms so frequently produced by them, have led M. Poisson to introduce them into chocolate. The preparations are in the form of pastilles, each containing four grains of one or the other salt. The disagreeable taste of the drugs and their injurious effect upon the gastric mucous membrane are entirely obviated, and they are thus acceptable to the most delicate stomach.—*Journal de Médecine de Paris*, Feb. 28, 1885.

Contribution to the Study of Albuminuria.—Professor Albert Riva, in an experimental study of albuminuria, reaches the following conclusions as the solution of the questions:

a. What forms of albumen are more or less filtered through the kidney?

b. What effect does such filtration have upon the renal tissue?

c. What effect does the albumen assimilated or non-assimilated produce upon organic change?

1. The albumen of the egg is filtered most easily, and for this reason produces the most marked albuminuria.

2. Albuminuria is not caused by the peritoneal injection of inflammatory or simple exudates, whatever may be the period of the disease from which they arise.

3. The absence of albuminuria from such causes is verified by cases in which the exudates injected are taken from persons already suffering from albuminuria, either mechanical or nephritic, no matter what the stage may be.

4. Peritoneal absorption does not seem to modify the albumen. There is no difference in results whether the injection is made into the peritoneum or directly into the blood current.

5. The albuminuria disappears rapidly after the albuminous injections are discontinued, though they may have been maintained a long time.

6. In the albuminuric urine are found numerous granular cylinders, which disappear along with the albuminuria, and sometimes even before it.

7. During artificial albuminuria the kidneys are more or less congested, the tubules plainly enlarged, and the epithelium turbid. These changes, however, are equally as transitory as the albuminuria.

8. Organic change, specially studied by examination of the composition of the urine, and from the weight of animals fasting, or fed as usual, is without doubt modified under the influence of albumen, diffusible or non-diffusible; but to determine these modifications exactly, further investigations are necessary.—*Gazzetta degli Ospitali*, January 28, 1885.

Variation in the Menstrual Function.—Dr. Jules Rouvier completes a careful study of variations in the menstrual function with the following conclusions:

1. Deviations from the normal menstrual phenomena assume the form of congestion, hemorrhage, or of morbid supplementary manifestations, such as jaundice, erysipelas, cutaneous diseases, neuralgia, and perversion of the secretions.

2. They may exist in old women; may affect any part of the system, but especially the mucous membranes; and may or may not accompany normal menstruation.

3. They generally coincide with ovulation.

4. They are always referable to some cause which should be sought for as exerting a more or less determining influence upon the locality affected.

5. When there is atresia of the genital organs, arrest of development, or absence of the uterus, exaggerated sensibility of the nervous system, or hysteria, the deviation may be manifested by any organ whatever.

6. When the above conditions do not exist, such deviation will select for its chief location: *a*. a diseased organ; *b*. an organ recently cured of a disease; *c*. an organ in which the physiological demands are intense and transient.

7. When such variation is manifested without apparent cause in the lungs, breast, or stomach, a cancerous or tuberculous diathesis should be suspected.

8. Variation in the menstrual function being a morbid manifestation, necessitates medical intervention and treatment either local or general.

9. Pregnancy and lactation exercise the same influence upon deviations in the menstrual function as upon the normal catamenial flow.

10. Though ordinarily confined to one or several epochs, menstrual deviations may begin at puberty and persist until the menopause.—*Annales de Gynécologie et d'Obstétrique*, March, 1885.

The Pseudo-rheumatism of Mumps.—Drs. M. Lannois and G. Lemoine, in the *Revue de Médecine* for March, 1885, give clear clinical proof that pseudo-rheumatic complications frequently supervene upon an attack of mumps. Complete recovery from the attacks has always resulted. As to treatment, little or nothing can be said. Rest in bed and sedative embrocations are in most cases all that is necessary. Salicylate of soda, in the cases in which it has been used, seems to be without effect.

The general conclusions arrived at concerning the disease are the following:

1. Mumps are sometimes accompanied by rheumatic manifestations, the relative frequency of which remains to be determined.

2. These manifestations are shown either at the same time as the mumps or rather at their decline, and assume the same behavior as *orchitis* due to mumps. They may not remain limited to the articulations, but attack also the synovial sheaths of the muscles.

3. They affect a subacute condition, and give rise to only moderate pain and swelling, and to general reactions which are not serious.

4. They recur readily and thus prolong the duration of the disease, the cure of which is the rule.

5. They are not truly rheumatic in their nature, but are only local manifestations of the parotiditis.

6. Pseudo-rheumatism may be compared with the pseudo-rheumatism of the infectious diseases, erysipelas, scarlatina, etc.

Complications Observed in the Various Organs of Sense during the Course of Mumps—Dr. Fournié, in an exhaustive review of the numerous authorities citing cases in which the several organs of sense have been affected during, or subsequent to, an attack of mumps, concludes his paper with the following résumé:

The auditory apparatus is relatively the location of the most serious and frequent effects of mumps. Absolute or temporary deafness and catarrh of the auditory meatus are the principal expressions of such localization.

I. Absolute Deafness.—This is of anatomical origin, uncertain in its nature, but resulting probably from a direct miasmatic impression produced by the infectious principle of the disease upon the nervous system. The deafness is characterized by:

a. Early appearance.

b. Rapidity of production.

c. Independence of glandular and other complications incident to mumps.

d. Incurability.

No appreciable otoscopic lesion is present, but the symptoms may more or less perfectly simulate those of Ménière's disease. There is no symptom by which the occurrence of deafness is foreshown, or by which the extent of the disease may be prognosticated. All ages, sexes, and forms of mumps are liable to such complication.

II. Temporary Deafness.—As a result of mumps, clinical facts well establish the possibility of a transient deafness, different in the time of its appearance, its in-

tensity, and its duration, from that above described. It is rarely complete, and lasts usually about two weeks.

III. Catarrh of the Meatus.—In some instances there is produced an auricular catarrh similar to that of the conjunctiva or urethra. This determination of the disease is habitually contemporaneous with the glandular affection, and is produced by a sero-purulent discharge little different from that of ordinary otorrhœa. Its duration is relatively short, and it plays no special part in the determination of those diseases which, occurring subsequently to mumps as well as other diseases, may result in suppuration of the auditory meatus.

As ocular complications of parotiditis have been observed:

1. Conjunctivitis.
2. Inflammation of the lachrymal gland.
3. Sensorial derangements of diverse nature.

The ocular catarrh is usually of little import and of rare occurrence, and only deserves attention from the fact that keratitis sometimes results as a complication.

Inflammation of the lachrymal gland is rare and of the same nature as that of the parotid.

Sensorial derangements are either of early or late appearance. If early, they are only observed in cases of extensive inflammation with abundant discharge. They are due to impediment in the intraocular circulation, and are benign and of short duration.

When they appear late in the disease they are, similar to deafness of the same origin, not dependent upon an exaggerated glandular flux, but have for their origin anatomical atrophy of the pupil, produced by direct impression of the morbific principle of the disease upon the nervous centres. They are serious in their nature and the prognosis is grave.—*Archives de Médecine et de Pharmacie Militaires*, March 16, 1885.

SPLENECTOMY IN THE RABBIT; ABSENCE OF FUNCTIONAL RELATIONS BETWEEN THE SPLEEN AND THYROID BODY.—In the *Arch. per le Scienze Mediche*, vol. viii., PROF. G. TIZZONI records the results of experimental splenectomy practised upon rabbits. The number of animals operated upon was eighteen. They were killed at various times after the operation, ranging from twelve to two hundred and forty days and the results as observed carefully noted. The conclusions reached by Prof. Tizzoni are as follows:

1. Splenectomy practised upon the rabbit does not produce appreciable modification in the health of the animal.

2. The age of the animal does not influence the results of the operation, which is endured equally well whether the animal be young or old.

3. The development of the body and the conditions of nutrition are not modified by splenectomy.

4. Absence of the spleen, moreover, exercises no influence upon the function of fecundation and the reproduction of species.

5. Those rabbits born of parents from which the spleen had been removed, presented no variation in size, form, or structure of the spleen, nor alteration in the hæmatopoietic organs or other parts of the body.

6. In the rabbit—different from the dog—splenectomy causes no great modification in the hæmatopoietic organs and tissue, indications being found only in young animals, as would indicate a greater activity in medulla of bones.

7. The thymus and thyroid bodies are not affected by removal of the spleen.

8. The conditions of glandular neoplasia—whether in diffuse form or in circumscribed nodules—which were observed in some animals, probably represented only physiological increase of the organ.

9. From the above conclusions, which represent the immediate results of his experiments, Prof. Tizzoni draws the following inferences:

a. Neither in the dog nor rabbit do there exist any physiological relations between the spleen and the thyroid body; or, at least, in the functions of these organs there does not exist such relations as will enable the one, in the absence of the other, to perform its functions when removed.

b. In the rabbit the spleen and connective tissue of great peritoneal folds cannot in extrauterine life be regarded as hæmatopoietic organs.

c. The differences which are observed in various animals in the results of splenectomy, depend on physiological differences in the function of the spleen in various animals, and do not contradict or disprove each other.

d. From facts observed in experiments entirely upon a single species of animals, general conclusions must not be drawn concerning the hæmatopoietic process.—*Lo Sperimentale*, January, 1885.

CREASOTE WATER AS A LOCAL ANESTHETIC.—DR. E. R. SQUIBBS, in the *Ephemeris* for March, 1885, says:

The officinal aqua creasoti, or creasote water, is so important as a preparation for one special use that it is well to notice it in order to emphasize that special use. It is a simple one per cent. solution of wood creasote in water, and, like similar solutions of carbolic acid and of cresol, it is a most effective local anæsthetic, and topical dressing to burns and scalds. It is no better than the solutions of carbolic acid, or of coal-tar creasote, for this purpose, but it is quite as good, so that whichever is most accessible or most convenient may be used. This creasote water, as made by the above formula,—or diluted with an equal volume of water, or with more water for delicate surfaces in women and children,—and applied by means of a single thickness of thin muslin, or worn-out cotton or linen, such as handkerchief stuff, and the application renewed from time to time, as the return of pain requires it,—will relieve the pain of burns and scalds in five to ten minutes, and will maintain the relief as long as the applications are properly renewed, or until the painful stage is over.

It is also very effective as a local anæsthetic for general use in all painful conditions which affect the surface only, such as the pain of erysipelas. The benumbing effect of these phenols upon the skin is very promptly reached, and can be carried to almost any degree that is desirable, by simple management of the strength of the solutions and the mode of application. They are true anæsthetics to the skin, while the much lauded cocaine is not.

This statement has been published so often during the past twenty years, and the treatment has been so effective in so many hands, that it is wonderful to notice how the common practice is still to use the old and comparatively useless hot dressings, such as carron oil, white lead ground in oil, flour, liniments, etc, or the newer application of solution of bicarbonate of sodium.

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SATURDAY, APRIL 11, 1885.

THE SURGERY OF PYLORIC STENOSIS.

An important contribution to the operative treatment of carcinomatous and fibrous obstruction of the pylorus may be found in the *American Journal of the Medical Sciences* for April, in which the author, Dr. Winslow, of Baltimore, has collated nearly all the examples that had been recorded up to February 9, 1885, of pylorectomy, and its substitutes, gastroenterostomy, gastrectomy, gastrostomy, duodenostomy, and digital divulsion of the pylorus. In all, he has collected 61 excisions of the pylorus, including 1 of his own, 13 gastroenterostomies, 1 gastrectomy, 1 gastrostomy, 3 duodenostomies, and 6 examples of digital divulsion; and he has given a most satisfactory résumé of the indications for, prognosis of, causes of death after, and technique of these different procedures. In the present article, we propose to draw some conclusions as to the justifiability of these operations and their comparative value, availing ourselves not only of the material furnished by Winslow, but of 8 additional examples of pylorectomy from the practice, respectively, of Kuester, Czerny, Lauenstein, Schede, Koehler, and Rydygier, 2 jejunostomies by Surmay and Robertson, 2 pyloric divulsions by Loreta, referred to by Holmes in the *British Medical Journal* for February 21, 1885, and 1 gastroenterostomy by Rydygier, the details of which, as well as of 3 new pylorectomies by that surgeon, may be found in the *Deutsche Zeitschrift für Chirurgie*, Bd. xxi., Hefte 5 and 6, 1885.

1. Carcinoma of the Pylorus.—The operations that have been practised up to the present time for carcinomatous stenosis are pylorectomy, gastroenterostomy, gastrostomy, and duodenostomy. The single case of extirpation of the entire stomach need not detain us, as there is no probability that it will be repeated.

Pylorectomy has been resorted to at least 60 times, of which 45, or 75 per cent., succumbed—29 from collapse, 6 from peritonitis, 4 from gangrene of the transverse colon, 2 from inanition, 1 from exhaustion, and 3 from undetermined causes. Of the 15 survivors, 5 died subsequently of recurrence, respectively, at the expiration of three, four, ten, eleven and a half, and nineteen months; 2 were living with recurrence, respectively, at eighteen months, and three years and nine months; the disease recurred in 1 in eleven months, and Socin performed a gastroenterostomy, the patient being alive at the end of four months, the date of the last report; 3 patients were alive without recurrence at the expiration, respectively, of two, seven, and eleven months; and in 4 the fate is uncertain. In other words, of 56 cases in which the result is known, 75 per cent. perished as the direct result of the procedure; in 72.72 per cent. of the survivors there was a return of the disease; and in 27.27 per cent. there was freedom from recurrence for less than one year. Hence, not a single patient was permanently cured, that is to say, remained free from recurrence for three years. These facts are quite sufficient to condemn the operation, and the opinion that it is unjustifiable is rapidly growing.

Gastroenterostomy, a procedure devised as a substitute for excision of the pylorus when the latter is rendered impracticable by adhesions or the extent of the disease, has been performed 11 times, with 3 recoveries, and 8 deaths, or a mortality of 72.72 per cent. Of the survivors, 1 died in four months, and 2 were still alive at the expiration, respectively, of two and four months. As the mortality is nearly as great as that of pylorectomy, and as the cases in which the operation has been practised were more serious than those in which pylorectomy was done, death in a short time being inevitable without any operation, it is obvious that gastroenterostomy is not destined to become a recognized procedure.

Of gastrostomy and duodenostomy, little need be said. Hahn succeeded in prolonging life for two weeks by opening the stomach and feeding the patient through a tube passed into the duodenum; while Langenbuch's case of the establishment of a duodenal fistule for the purpose of feeding died on the seventh day of inanition.

The frightful mortality of all the operations of which we have presented statistics, the almost inevitable recurrence of the disease, the failure to have effected a single permanent cure, and the slight knowledge which we possess of the extent to which nutrition can be sustained by intestinal digestion alone, are, in our opinion, grave objections to oper-

ative interference in carcinoma of the pylorus. Hence, we believe that such cases should be left to their fate, suffering being palliated by anodynes, and nourishment being afforded by the rectum.

2. Fibrous Obstruction of the Pylorus.—The operations that have been done for fibrous stricture of the pylorus are pylorectomy, gastroenterostomy, duodenostomy, jejunostomy, and digital divulsion.

Excision of the pylorus has been practised in 9 cases, of which 5 recovered, and 4, or 44.44 per cent., died, the causes of death having been peritonitis in 1, collapse in 1, and gangrene of the transverse colon in 2. The survivors were doing well, respectively, at the expiration of one month, three months, six months, six months, and nearly three years.

Gastroenterostomy has been done 3 times, with 1 death from collapse, and 2 recoveries. Of the ultimate fate of the survivors we have no information.

Duodenostomy has been resorted to by Southam in one case, the patient dying from inanition on the third day. Surmay and Robertson lost their patients after jejunostomy, respectively, at the end of eight and thirty hours, so that these measures have proved to be useless.

Digital divulsion of the stomach, as first done by Loreta, has been practised in 8 cases, of which 6 recovered, and 2, or 25 per cent., died of collapse. Of the survivors, 1 was doing well on the third day, and the remainder had perfectly recovered, their digestion being normal, and there being not the slightest evidence of recontraction. In three cases indeed, eighteen, twenty-four, and twenty-seven months had elapsed since the operation.

From the above facts, we think that the conclusion is warranted that Loreta's operation should be preferred in cases of cicatricial stricture of the pylorus. It is far less fatal than pylorectomy, is much more easy of execution, it exposes the peritoneal cavity for only a comparatively short period, and it does not sacrifice a portion of the stomach. We may further conclude, with Winslow, that when digital divulsion is impracticable from the great thickening of the walls of the pylorus, resection is indicated in those who are well nourished, and that gastroenterostomy should be resorted to in greatly debilitated subjects.

In connection with the operative treatment of pyloric stenosis, attention may be called to an entirely opposite method of treatment carried out by Dr. Russell, of Birmingham, and recorded in the *British Medical Journal* for February 21. In a man, now aged 55, suffering from a stationary constriction of the pylorus with great dilatation of the stomach, washing out the organ, through which every impurity which would act as a ferment was removed, succeeded in restoring the digestive powers and in sustaining a useful existence for five years, the patient being still alive. If further experience with this treatment should prove it to be as valuable as in the case of Dr. Russell, Loreta's operation should not be undertaken until irrigation has had a fair trial.

ARE WE A NERVOUS PEOPLE?

In a pamphlet addressed to "The Medical Profession of Brooklyn," that we are a nervous people, is affirmed with all the emphasis given by a ponderous load of vital statistics. It is further assumed as proven in this pamphlet, that a people so oppressed with nervous ailments need a dispensary at whose doors the burden may be unloaded. If the good city of Brooklyn is so afflicted, why not the rest of the country? It is true, in the City of Churches, there are such emotional moralists as Beecher and Talmage, such ingenious men of business as young Ferdinand Ward, and such "tempest-tossed" men of letters as Theodore Tilton; but have we not in Philadelphia an Antivivisection Society? It will be found, we think, on a proper study of the vital statistics of any part of our country, that in every town there are sources of emotional disturbance not unlike those which agitate Brooklyn.

Are we really a nervous people? Is it true, as alleged, that our climate and social condition tend to develop disorders of the nervous system in greater ratio than the zymotic, tubercular, and respiratory diseases? If so, we can reëcho the exclamation of the pamphlet above quoted: "It is then the more startling, that whilst every city in the country has one or more hospitals for the reception of these three classes, there is not one in the land for the adequate reception of the next most frequent class"—*i. e.*, the nervous.

To all the attempts, statistical and otherwise, to demonstrate the greater prevalence of nervous diseases in modern times, we have to oppose two reflections, which may or may not have the dignity of arguments. The first is, the steady increase in the average duration of human life; the second is, the more stable condition of modern society, in respect to both its moral and political relations. Now, as nervous diseases are peculiarly intractable to remedial agencies, and in their very nature prone to a fatal termination, their remarkable extension seems hardly compatible with the increasing longevity of the civilized portion of the human family. The second consideration seems even more weighty. The improved social state; the greater comforts in the home life of the people, in consequence of which the mere struggle for existence is much less harassing; and the more benign and stable governments, leaving the people, for the most part, in the enjoyment of their own possessions, must be conducive to the development of an unexcitable state of the nervous system. In ancient and mediæval times—up to the middle

of the nineteenth century, indeed—society was frequently convulsed with political and moral throes, so that if such influences are causative of nervous derangements, they ought to have been more abundantly manifested in those momentous eras. That nervous derangements should occur more freely when human society is in a less disturbed state, and all the conditions more favorable to a general well-being, seems to us hardly credible, how peremptorily, soever, vital statistics may affirm the opposite position. But all the world knows how very elastic statistics are. The Brooklyn statistics could be made to prove far more than that a dispensary for nervous diseases is needed there; in fact, they could readily establish the proposition that the apparent increase in nervous affections is an outcome of the moral teaching of Brothers Beecher and Talmage.

An examination of the Hippocratic and other ancient medical writings discloses the important fact that affections of the brain and nervous system are treated of just as fully as are other maladies—as fully, relatively, as the same diseases in modern systematic works. In our day, because of the great advances in physiology and pathology, nervous affections are more carefully differentiated, and become thus apparently more numerous. Furthermore, modern society is fructified with a new variety of the human animal—the neurological expert. It is true, in the time of the Egyptian Pharaohs, according to Herodotus, there were specialists for nervous diseases but they subsequently became extinct. We do not find, amongst the records of the brick tablets, or in the cuneiform inscriptions, any references to vital statistics proving the need for Asclepiadæ devoted to nervous diseases, but they must have existed for all that. The neurological expert of ancient days, like his modern prototype, could only have arisen under favoring conditions; hence we must infer, despite the absence of statistics capable of this interpretation, that when this variety of the genus *medicus* flourished, it had abundant material for the exercise of its powers. Although this inference partakes rather of the nature of a syllogism, in which, possibly, we fail to dispose of our middle term, we take refuge in the statement of Mill, that "this inference of one particular fact from another, is a case of induction."

After this dispassionate review of the medicine of all ages, *more medico*, we are conducted to the conclusion that man has always been a nervous animal, and despite the Brooklyn statistics, not more so in our day than in former times.

THE ALBUMINURIA OF DIPHTHERIA AND SCARLET FEVER.

It is well known that albuminuria is a very common complication of both diphtheria and scarlet fever; that it is as frequent, and probably more so, in the former than the latter. Few, however, have paused to consider whether there is any difference in the immediate conditions which cause it. That the albuminuria of scarlatina is the result of a nephritis is generally understood, and we incline to believe that most physicians would ascribe the albuminuria of diphtheria to the same immediate cause. At the same time no very close examination is necessary in order to reveal important differences in their conditions. How rare, for example, is it to find uræmia or renal dropsy in diphtheria!

Senator has called attention to this difference in some remarks recently made before the Berlin Medical Society, and published in the *Berliner klin. Wochenschrift*, Dec. 1, 1884. According to him, the albuminuria of diphtheria is an albuminuria of congestion, altogether unassociated with the phenomena of inflammation, unless the congestion continue a very long time, when we may have superadded what is known as congestion-nephritis, or cyanotic induration. The congestion may be brought about in two ways: first, by an extension of the diphtheritic process to the larynx, the consequent dyspnœa producing a general engorgement which the kidneys share with the rest of the body; or it may occur later in the disease, from paralysis of the vagus, and feebleness of the heart. Such congestion is not infrequently associated with œdema of the lower extremities, which is also favored by the anæmia which is by this time present. An albuminuria from such causes seldom occurs in scarlet fever.

Another form, associated with diphtheria, may be called infectious-febrile albuminuria. This occurs, frequently, early in the disease, or when the throat affection is at its height, and is unaccompanied by any other symptoms of nephritis, such as blood, leucocytes, or epithelium in the urine. Sometimes, indeed, hyaline tube-casts are present, but these do not indicate inflammation. This albuminuria is comparable to that associated with the acme of other fever processes, disappearing with the subsidence of the fever. After death no changes are found in the kidney, or they are confined to limited areas of cloudy swelling of the epithelium, such as is often found without albuminuria.

There is, indeed, a third form of albuminuria in diphtheria, which is neither congestive nor febrile-infectious, but which is due to a mild nephritis, differing from the majority of cases of scarlatinal nephritis in its slighter anatomical changes, as well as in the mildness of its clinical features. In it, interstitial and vascular changes, as well as changes in the Malpighian capsules, are much less marked than in scarlatinal nephritis, and although it is true that higher degrees of nephritis, with their characteristic

clinical phenomena, are sometimes present, their great rarity must be admitted.

It should be stated, however, that Henoch, to the reading of whose paper on diphtheria succeeded the remarks of Senator, to which we have called attention, is inclined to believe that the diphtheritic albuminuria ascribable to asphyxic congestion, is the rarest form; that the cases in which albuminuria is present are often unattended by fever of any severity. He claims that the albuminuria of diphtheria is almost always the result of infection, and is to be included in the extensive group of infectious nephritis, notwithstanding the fact that Weigert and Fürbringer have failed to discover bacteria in the kidney under these circumstances.

There has always seemed to us a marked difference between the albuminuria of most cases of diphtheria and scarlet fever, and Senator has clearly indicated these differences as they have often presented themselves.

MUNICIPAL SANITATION.

The recent action of the Philadelphia Councils in requesting Chief Engineer Ludlow of the Water Department, to maintain silence upon sanitary matters connected with the water supply of the city, has received the prompt and vigorous condemnation of press and people, as it richly deserved. Fortunately some of the members who foolishly voted for the resolution have been relieved from further municipal duties, yet some of their compeers remain, and as the new Councils are just assembling, a few words on the subject may not be amiss.

Of all the business which will come before them, nothing can approach in importance the question of sanitation; and public agitation on this subject should be welcomed as an evidence that the people will heartily support them in the performance of their highest duties. Instead of being an injury to the city, a vigorous expression of public opinion is a benefit, inasmuch as it tends to impress upon outsiders the fact that sanitary matters are claiming their proper share of attention.

In spite of obvious sanitary defects, Philadelphia is exceptionally healthy when compared with other cities, but such a flattering comparison becomes a positive misfortune if it closes our eyes to the fact that the only true standard of sanitation is the absence of preventible diseases. If 1000 persons die every year from preventible diseases, the burden of responsibility falls no less heavily upon the municipal authorities if they can show that 1500 die yearly of the same diseases in a neighboring city. The bare facts remain that these lives, which might have been saved, have been lost, and that they have been sacrificed in no small measure to the apathy of Councilmen and the greed of contractors.

Guided by the sad lessons of the past, Councils should determine at once to check, so far as lies in their power, this wanton waste of the costliest treasures in the universe—human life and health. To accomplish this end we need a purer water supply, better pavements, actual street-cleaning, the abolition of cesspools and drinking-wells, modern sewers, and popular instruction in the grand truth that filth is poison. The chiefs of the Departments of Highways, Surveys, and Water, should be selected because they possess a thorough knowledge of sanitary engineering and the practical ability for executing public work, and they should not be hindered or insulted while they are doing their utmost to secure our welfare.

Above all, let the Manayunk intercepting sewer be completed without further delay, as it will prove of very valuable assistance in preventing the spread of the threatened epidemic of cholera. We learn with pleasure that funds available for this purpose will shortly be at the command of Councils, and we earnestly hope they will see the absolute necessity for the immediate prosecution of this great work.

To obtain the various blessings we have mentioned, sagacity and honesty in expenditure are the sole requisites. The people have learned that patchwork jobs such as they have hitherto been forced to accept are costly at any price, and if they could feel assured that their affairs would be conducted on simple but strict business principles they would willingly assent to an increase in the present low tax rate, and Philadelphia would soon regain its prestige as the cleanest and most healthful city in the Union.

GENERAL GRANT.

The distressing and disquieting symptoms experienced by General Grant on the 28th of March have not recurred, and the only incident of moment in the following week was a period of faintness on the morning of April 1st, which greatly alarmed those about him and was thought to indicate impending death. This period, however, promptly passed, and since that time his condition did not appear to have been much worse than during the preceding week, until last Tuesday morning, when a slight, but sudden hemorrhage ensued on a fit of coughing, and was followed by a rise of temperature, and greater weakness of the heart. It was deemed injudicious to try to ascertain the exact source of the hemorrhage.

The alarm felt has naturally colored the reports given out, and has increased the painful strain experienced by all. We recognize the difficulty of the position occupied by those who are called upon daily, almost hourly, to record the changes in the patient and to forecast the future, and hope that if circumstances warrant it, they may

find means to allay the immediate anxiety of the community, and limit the pain to that which is inevitable. In a disease that destroys by asthenia, death may come any day, but it may also delay for weeks, and since it is impossible to predict the hour, it is the part of kindness to calm suspense and to spare those who must bear the grief of an actual loss, the painful tension of days of hourly expectation.

THE NINTH INTERNATIONAL MEDICAL CONGRESS.

The General Committee is to be congratulated on the successful consummation of the preliminary steps in the organization of the Washington International Medical Congress. The inherent difficulties of the task were very great. The Committee appears to have been deeply imbued with the feeling that while the scientific aspect of the Congress was the foremost consideration, yet, that it must be maintained with a due regard to geographical distribution. Hence the most prominent and learned members of the profession have been selected to fill the various offices in the Congress and its Sections, and almost every State in the Union is represented in the list. So far, the outcome bears evidence of careful deliberation, and it has been received by the profession and the medical press with expressions of general satisfaction.

REVIEWS.

The Science and Art of Surgery. A Treatise on Surgical Injuries, Diseases, and Operations. By John Eric Erichsen, F.R.S., LL.D., F.R.C.S., Surgeon Extraordinary to Her Majesty the Queen; ex-President of the Royal College of Surgeons of England, etc. Eighth Edition, revised and edited by Marcus Beck, M.S. and M.B. London, F.R C.S., Surgeon to University Hospital, and Professor of Clinical Surgery in University College, London.

In noticing the eighth edition of this well-known work, it would appear superfluous to say more than that it has, like its predecessors, been brought fully up to the times, and is in consequence one of the best treatises upon surgery that has ever been penned by one man. The author, however, informs us in his preface that this edition is not, like previous ones, a mere reprint with a few unimportant additions here and there, but that it has undergone "a complete revision." That portion of the work which relates to Pathology has been mainly entrusted to Mr. Beck. It would be impossible within the limits of this notice to examine in detail Mr. Beck's pathological teachings, but as far as we have examined them, they seem to be trustworthy guides to modern pathology. Mr. Beck has also done a share of the work requisite to bring the portions of the book treating of clinical and operative surgery abreast of the times.

The chapter on surgical treatment of some uterine and ovarian diseases has undergone revision at the hands of Wm. A. Meredith, and the chapter describing operations upon the eye has been wisely omitted. Notwithstanding this the book exceeds the previous editions by several hundred pages.

Many of the old cuts have been redrawn, and some cancelled, and about one hundred and fifty new ones added.

The author states that simultaneously with the English edition an American reprint, and new Italian and Spanish translations will be issued.

Although more than thirty years have elapsed since the first appearance of Erichsen's Surgery, this present edition has been carefully brought up to the times in almost all points. It is most creditable to Mr. Erichsen that rather than follow the too common plan adopted by many authors of repute, viz., to issue as a new edition a merely slightly modified reprint, he has associated with him younger men upon whom the hard labor of a complete remodelling to suit modern pathological views has been laid, while he himself still affords the surgical world the benefits of his old as well as his later experience.

We have always regarded "The Science and Art of Surgery" as one of the best surgical text-books in the English language, and this eighth edition only confirms our previous opinion. We take pleasure in cordially commending it to our readers.

SOCIETY PROCEEDINGS.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, April 2, 1885.

The President, A. Jacobi, M.D., in the Chair.

Dr. William H. Draper read a paper on

ANTIPYRIN AND ITS EFFECTS,

which commenced with the statement that while no advance had of late been made in our knowledge of the essential nature of the condition known as fever, it was a fact that the means at our command of successfully treating it were constantly being enlarged. Then taking up the subject of antipyrin, which he mentioned was one of the many derivations of coal-tar, he gave an account of the physiological effects which had been noted in experiments with it upon animals. In very large doses it had been found to produce death by cardiac paralysis, and in somewhat smaller doses irritability of the nervous system, and finally paralysis.

It was first used in the treatment of fever by Filehne, of Erlangen, who gave it in doses of two grammes repeated every hour, until three doses had been taken, and who noticed that when the temperature went up again, after having been reduced by the remedy, it did so without the occurrence of a chill, as was the case when kairin was employed. Dr. Draper then referred to Guttmann, Alexander, and several other authors, and said that in many cases the drug had been noticed to produce free diaphoresis. He had himself used it considerably in his service at the New York Hospital since the 1st of October last, and mainly in typhoid fever. His predecessor in charge of the medical wards, Dr. Peabody, had already employed it to some extent, but had been somewhat embarrassed by the small supply of it that could be obtained in the early part of the

autumn. He had, however, been much impressed with its efficiency in reducing temperature, and had also noticed that it seemed to have a very tranquilizing effect upon the nervous system in fever patients.

His own cases of typhoid fever, in which it was used, were twenty in number; seventeen of the patients being males, and three females. Fifteen recovered and five died; the mortality thus being 25 per cent. The highest temperature reached in any of the fatal cases was 107.6°, on the twenty-fourth day of the disease. In one case in which the temperature could not be brought below 104° by the use of baths, it promptly fell to 102°, when antipyrin was given.

In the case in which the temperature was highest among those which recovered, it ranged from 103° to 106.6°; the average range in the whole number of these cases being from 100.6° to 103.6°. Vomiting was quite a frequent symptom. Of the fifteen cases in which recovery took place, there was diarrhœa in seven, and constipation in eight. There was sweating in a considerable number. Nervous symptoms were relatively few.

All the typhoid fever patients were treated either by cold applications (by baths or sponging) or by the use of antipyrin. In giving the latter the general method of Filehne, of Erlangen, was adopted, as a rule; 75 grains of it being divided into two doses of 30 grains and one of 15 grains, and the doses given at intervals of one hour. It was seldom found necessary to use more than 150 grains of the remedy during the twenty-four hours in order to maintain the temperature at an average of from two to three degrees lower than would have been expected if no antipyretic measures had been taken. As a rule, the pulse followed pretty closely the temperature curve; becoming quicker as that rose and slower as it subsided. In all cases antipyrin caused a reduction of the temperature; but in one instance it was found necessary to administer it hypodermically in order to obtain the desired result, no reduction following its exhibition by the stomach. One of the most noticeable effects of the drug was the rapid cleaning up of the tongue under its use; and it also acted very happily in quieting nervous symptoms; depression of spirits being produced by it in only one case. In six cases it caused sweats, and in six an erythematous rash resembling measles; while in a seventh it gave rise to a somewhat purpura-like eruption. These, however, occasioned the patients no annoyance. No change was noted in the urine except in cases in which the complication of parenchymatous nephritis existed.

The largest quantity of the drug was given to one of the patients in whom the disease ended fatally, who took some 350 grammes in thirty days; while the largest quantity given to a case that recovered was 334 grammes during a period of twenty-three days. The latter was a case of great severity. The most marked fall in temperature noted under its use was from 103.8° to 98°. In three cases the antipyretic effect of cold baths and antipyrin was directly compared. In the first case (to which allusion had already been made), it was impossible to reduce the temperature below 104.3° with the baths; but antipyrin promptly brought it down to 102.2°. In the second the lowest point reached under the baths was 102.4°, while under antipyrin it fell to 101.2°. In the third case, however, the difference was not so striking. Dr. Draper then mentioned a case of puerperal septicæmia in which Dr. Peabody had employed antipyrin with excellent effect in reducing the temperature, and also a severe case of abscess at the New York Hospital.

In scarlet fever and tuberculosis he had found that it invariably reduced the temperature and contributed materially to the welfare and comfort of the patient. On the whole, his observations had been altogether confirmatory of those made by European authorities in regard to the apparent value of antipyrin. At present it could only be commended as a sure and probably safe agent for the reduction of temperature. It did not cure the disease, it was true, but it was not right to condemn it on that account. For the present, it was necessary to be content with being able to control the symptom which caused the most discomfort, and not infrequently endangered the life of the patient. Antipyrin was not an antipyretic in the same sense that quinine and the salicylates were. These agents were ideal antipyretics in the class of cases in which they were specially indicated; while antipyrin smothered, but did not extinguish, the fires of fever. In some cases the latter actually caused a temperature as low as that met with in collapse, though with a total lack of the depression and other symptoms characteristic of this condition. As to the *modus operandi* of the remedy, the vomiting, breathing, and collapse-temperature produced by it seemed to indicate that its special effect was upon the nervous centres; but at present any such hypothesis as to its action was mere speculation.

Dr. Draper then announced his conclusions as follows:

First. Antipyrin is an efficient means for reducing temperature.

Second. It is an apparently safe remedy when administered with prudence, and watched with care.

Third. While it does not abort or markedly modify the course of a febrile disease, it undoubtedly contributes greatly to the comfort of the patient.

Fourth. Occasionally unpleasant effects are produced by it which more than counterbalance the benefit derived from its use.

Fifth. Further experience with it, and a more exact knowledge of the manner in which it is best to administer it, may render it an extremely valuable contribution to the art of healing.

Dr. J. Leonard Corning said that from the physiological results caused by it, and from the collateral phenomena observed when it was administered in disease, it was reasonable to suppose that the remedy acted through the agency of the nervous centres, and that he was convinced, therefore, that the author of the paper was right in forming the conjecture that this was the case.

Dr. Leonard Weber said that since the 16th of December, 1884, he had employed antipyrin thus far in fifteen cases. None of them were cases of typhoid fever, but there were cases of pneumonia, bronchitis, and scarlet fever, with high temperature among them, and in not a single instance had he been disappointed by its failure to reduce it. He would like to refer to two or three of them to show the effects of the remedy in his experience. The first case mentioned was that of a child four and a half years old, suffering from

double pneumonia. The temperature was 105½°, and there was violent delirium. He ordered half a gramme of antipyrin to be given per rectum, and that it should be repeated in half an hour. In a short time the temperature was reduced to 102½°, and the delirium had disappeared. The next day he gave two doses, of half the quantity, by the mouth, and resolution then occurring, there was no necessity for continuing its administration.

The next case he mentioned was one of scarlet fever in a child of two and a half years, in which the remedy was given for the purpose of keeping the temperature within bounds. Before the antipyrin was taken the latter was 105°, and in this instance he followed a plan of giving it which, as he had recently seen, had now been adopted at the Dresden City Hospital. This was to use it in smaller doses, and repeat them every two or three hours through the day, according to the necessities of the case. The last case that he referred to was that of a lady forty-three years of age, with pneumonia of the upper lobe on one side, whom he had previously treated in two other attacks of pneumonia. The patient got along without any difficulty for two days, but on the third day he found her with a temperature of 104°, a pulse of 110, a dusky hue of the skin, and a generally adynamic condition. He ordered three doses of twenty grains of antipyrin, each to be given at one, two, and three o'clock respectively, and at two and a half o'clock she had slight vomiting. The temperature fell rapidly, and was now reduced to 100½°, while the pulse came down to 96. After that the temperature never rose above 101½°. Dr. Weber thought it was well, as a rule, to begin with small doses, say eight grains (per rectum) to children, and fifteen grains to adults, and afterwards increase the quantity if it was necessary. In this way it would be possible to avoid the too rapid and perhaps dangerous fall of temperature which was sometimes caused by it. At the Dresden City Hospital there had been six cases in which the temperature was actually lowered to 92° or 93° by it.

Dr. Boldt said that in two cases of puerperal septicæmia he had given it in not thirty, but sixty grain doses, and that it had been followed by marked prostration; the patients sinking into a semi-comatose condition, and the symptoms generally resembling those of carbolic acid poisoning. He had found that the remedy exerted its action in from three-quarters of an hour to one hour from the time it was given, and its effects did not continue more than three or four hours. He thought it well, as a rule, to commence with twenty or thirty grain doses, and then increase them if necessary. He had not noticed the same relation between the degree of temperature and the pulse which had been observed by Dr. Draper, and in the two cases of puerperal septicæmia referred to, no effect whatever was produced upon the pulse.

Dr. Frank H. Kinnicutt said that he had used antipyrin to a considerable extent, both at St. Luke's Hospital and in his private practice, and that the effects which he had observed were almost exactly similar to those mentioned by Dr. Draper. Among the cases in which he had employed it, were facial erysipelas, scarlet fever, pneumonia, pleurisy, phthisis, and intermittent fever. In his experience, gastric disturbance had been exceptional, and he said he had been particularly pleased with the certainty of the action of antipyrin in controlling the usual afternoon rise of temperature in phthisis. In this affection, it had been maintained that it was contraindicated on account of its liability to produce more or less profuse sweating; but, in his cases, he had found that this was as frequently absent as present. In one case, under antipyrin, he had noticed a chill occurring as the temperature went up again, as was very often the case when kairin was given; but there was only the one instance of it. There was one case of pneumonia in which a temperature of collapse, but without other serious symptoms, was produced by twenty grains of antipyrin. The patient expressed herself as feeling greatly relieved, and her general condition remained entirely satisfactory. To children, he thought it was well to give two doses of a grain and one-half for each year of the child's life; and he had found that in scarlet fever the remedy was of special value in controlling the high temperature, and rendering the patient comfortable.

Dr. Guy L. Peabody said that he thought that the lack of effect from antipyrin which had been sometimes noted of late might, perhaps, be explained by a fact which he had recently seen stated in the German journals, viz., that the drug was now largely adulterated. In his own earlier experiments he had never failed to produce rapid reduction of temperature in any case in which he employed it; but during the last six weeks he had more than once been disappointed in finding the remedy apparently inert. Thus, in the case of a negro now under treatment at the New York Hospital, who had a temperature ranging from 103° to 106°, for the past two days he had administered 75 grains of antipyrin a day, in three doses; but without affecting the temperature the fraction of a degree.

At all events, he believed that no harm was done the patient, in ordinary cases, by antipyrin, even if no great benefit might be derived from it; and it had never happened to him to see the force of the heart's action reduced by it. It might be of interest, he thought, to know that it could be given hypodermically with great facility; the drug being readily soluble in hot water and not recrystallizing again, while it was not at all likely to produce any unpleasant local effects. Hence, in any case in which vomiting or other disturbance was produced by giving it by the stomach, the hypodermic method could be substituted for this with advantage. He had personally tested antipyrin in almost all of the ordinary febrile diseases; and in one case of typhoid fever in which no effect whatever was produced by a thorough trial of cold bathing, the temperature was promptly reduced by it. The patient in this case was a very fleshy young woman, upon whose body there was such a thick layer of adipose tissue that it seemed to prevent refrigeration of the external surface from affecting in the slightest degree the temperature of the interior of the system. Before antipyrin was resorted to she had a temperature of 105°, with a marked degree of mental hebetude; but under the use of this drug the temperature was quickly brought down, and the sensorium at once cleared up. Altogether, therefore, he thought the remedy was unquestionably worthy of a further test.

Dr. Draper, in closing the discussion, said that he had himself adopted a plan of administration similar to

that suggested by Dr. Wiln in a number of instances. In one case he found that the use of twenty grains of antipyrin twice a day added very greatly to the comfort and welfare of the patient. All that we could say in regard to this remedy at present was, that it was a very efficient means of treating a symptom. But this symptom of hyperthermy was often one of the greatest importance, particularly in typhoid fever, in which the long continuance of an extreme high temperature in itself was an element of no little danger. By keeping this in control, therefore, we were enabled to save the patient's life in a certain proportion of instances.

DR. ALFRED C. POST read a short paper, in which he gave an account of a

NEW OPERATION FOR RUPTURED PERINEUM

which he had devised, and which he believed to be simpler and to provide a firmer perineal body than the operations now in use, while it involved no loss of substance. He acknowledged, however, that the procedure had not as yet been fairly tested, since it had thus far been resorted to in only three cases.

CHICAGO GYNECOLOGICAL SOCIETY.

Stated Meeting, March 20, 1885.

THE PRESIDENT, H. P. MERRIMAN, M.D., IN THE CHAIR.

DR. J. SUYDAM KNOX read a paper entitled

THE INFLUENCE OF CIMICIFUGA RACEMOSA UPON PARTURITION.

After a *résumé* of the medical history of the drug, Dr. Knox gave the results of his clinical observations in one hundred and sixty cases of labor—fifty-seven primiparæ, ninety-three multiparæ,—in which black cohosh had been exhibited. The average duration of the first and second stages of labor, in normal cases, in primiparæ, was seventeen and three hours respectively. Under the influence of black cohosh, the duration of the first and second stages of labor, in the fifty-seven cases observed, was six and one-quarter, and one and three-quarter hours respectively. The average duration of the first and second stages, in normal cases, in multiparæ, was twelve and one hours, respectively. Under the influence of black cohosh, in the ninety-three cases, observed, the average duration of the first and second stages was three hours and twenty-seven minutes respectively.

From these clinical observations, Dr. Knox drew the following conclusions:

1. Cimicifuga has a positive sedative effect upon the parturient woman, quieting reflex irritability,—nausea, pruritus, and insomnia, so common in the last six weeks of pregnancy, are always rendered less distressing, and often disappear under its administration.

2. Cimicifuga has a positive antispasmodic effect upon the parturient woman. The neuralgic cramps, and irregular pains of the first stage of labor are ameliorated, and often altogether abolished. In fact during the first indiscriminate use of the drug in all cases, I had the mortification, with a few women, of terminating the labor so precipitately, and without prodromic symptoms, as to be unable to reach the bedside before the birth.

3. Cimicifuga relaxes uterine muscular fibre, and the soft parts of the parturient canal, by controlling muscular irritability, thus facilitating labor, and diminishing risks of laceration.

4. Cimicifuga increases the energy and rhythm of the pains in the second stage of labor.

5. It is my belief that cimicifuga, like ergot, maintains a better contraction of the uterus after delivery.

It is my habit, however, to administer from fifteen to thirty minims of the fluid extract of ergot after the birth of the fœtal head, and I have had but few opportunities of testing this effect of the cohosh.

My method of administration has been to give fifteen minims of the fluid extract of cimicifuga in compound syrup of sarsaparilla each night for four weeks before the expected confinement.

One fluidounce of the fluid extract of cimicifuga to three fluidounces of compound syrup of sarsparilla,—dose, one teaspoonful,—makes just the required quantity.

DR. PHILIP ADOLPHUS had employed the cohosh in the manner indicated by Dr. Knox, in one case with negative results.

DR. EDWARD WARREN SAWYER thought the results obtained by Dr. Knox were astonishing. He thought there could be no doubt that the drug had the physiological action to which allusion has been made. He would at once act upon the suggestion in his private practice.

DR. W. W. JAGGARD thought that if the influence upon parturition, so clearly sketched by Dr. Knox, was capable of demonstration, he could agree with Dr. Sawyer's panegyric. Dr. Knox's carefully prepared paper was worthy of study and investigation. Dr. H. Webster Jones, formerly a prominent obstetrician in Chicago, had advanced similar views with reference to the physiological action of black cohosh, in a paper published in the *Transactions of the Illinois State Medical Society*, a few years since. Dr. Jones's advocacy of the drug as an oxytocic was well known to every practitioner in the city.

DR. JAGGARD desired to call the attention of the Fellows to the following subjects in Dr. Knox's paper.

1. Dr. Knox had stated that the average duration of the first stage of labor in primiparæ and multiparæ was respectively seventeen and twelve hours; under the influence of black cohosh the duration of this stage was abbreviated to six and one-quarter, and three hours, respectively. It was a matter of extreme difficulty to define the limits of the duration of the first stage of labor with such mathematical accuracy. The "personal equation" assumes great importance as a possible source of error. The subjective signs and physical exploration are not always sufficient to justify the diagnosis of the commencement of labor. Thus Dr. R. Lumpe (*Archiv fur Gynækologie*, 1883, Bd. xxi. Hft. i. p. 29) concludes, from the observation of several hundred primiparæ, that the cervical canal begins to dilate from eight to fourteen days before the expulsion of the child. Other observers assign a period of much briefer duration than the typical seventeen hours of Spiegelberg, to which Dr. Knox alluded.

Apart from the difficulty in the determination of the commencement of the first stage, the duration is capable of infinite, individual variation.

II. One hundred and sixty cases were insufficient to warrant such positive deductions upon an intricate therapeutical problem. In every one of the cases cited by Dr. Knox, it was clearly indeterminate whether or no the effect was *post hoc* or *propter hoc*.

Black cohosh had been employed on an extensive scale in large lying-in hospitals in Germany. Every condition for accurate clinical observation had been supplied. Such conditions were: competent observers, numerous cases, under absolute control for a sufficient period of time, chemical purity of the drug, and an approximately perfect system of keeping records. Up to the present time results had been of a purely negative character. It was true that Schatz had reported favorably as to the action of the drug in the treatment of certain pathological conditions of the uterus. Dr. Jaggard did not wish to be understood as dogmatically condemning the drug. The evidence in favor of its action as an oxytocic, as collected from experiments upon the lower animals or from clinical observation, was insufficient to warrant the positive conclusions of the author of the paper. The subject was worthy of further investigation.

III. He thought the practice of the exhibition of ergot before the completion of the second stage of labor was reprehensible. It was in conflict with the obstetrical principles of the day, as deduced from clinical experience and the nature of the case. This remark was applicable exclusively to physiological labors.

Dr. Charles Warrington Earle had used black cohosh, at the suggestion of Dr. Jones and Dr. Knox, in a variety of cases with negative results. He had about the same number of precipitate labors as occurred in his practice prior to the introduction of the drug. It was possible that he had not employed doses of sufficient size, nor for a sufficient length of time before labor.

Dr. Henry T. Byford wished to enter a protest against all methods of rendering the process of labor shorter. Quick labors were wrong labors as a rule.

Dr. George M. Chamberlain had no experience with black cohosh, but he was opposed to the exhibition of ergot before the expulsion of the child in physiological cases.

Dr. Knox closed the discussion. In reply to Dr. Jaggard, he said that the results of his clinical experience with black cohosh were of such a convincing character that he would continue the exhibition of the drug in the future. In regard to the exhibition of ergot before the expulsion of the child, he did it to save time. The drug was not absorbed until twenty minutes after exhibition, and long before the expiration of that time the child was born. He could not spare the twenty minutes required to secure retraction of the uterus after delivery of child and placenta. In reply to Dr. Byford, he said that, at the present day, there were no physiological labors. Women were not Eves. By the judicious use of a drug, like black cohosh, labor was made to resemble the ideal, physiological process, as still observed among savages.

The Secretary then read the inaugural thesis of Dr. Edmund J. Doering, entitled

SOME REMARKS ON THE VALUE OF PERMANGANATE OF POTASSIUM IN AMENORRHŒA.

After a brief description of the physical and chemical characters of the drug, Dr. Doering discussed its physiological action. Bartholow, who has great faith in the drug, claims that although it parts with its oxygen with great readiness, this readiness is *not* sufficiently great to prevent the distribution of this gas into the blood. "His opponents deny this and argue that the organic matter contained in the stomach and mucous membrane is sufficient to appropriate the oxygen of the salt and thus prevent its entrance into the circulation."

Prof. N. Gray Bartlett, a Chicago chemist, gives the following opinion:

"From the readiness with which the permanganate of potassium is decomposed by organic compounds, it would seem to be ineligible for internal use. When so administered, it is immediately brought into contact, in the stomach, with a relatively large amount of organic matter and must necessarily be very rapidly destroyed, the manganese of the permanganate separating, in all probability, in the form of the hydrated manganese dioxide. The latter compound is an active oxidizing agent, and is possibly capable of exercising in the economy the oxidizing function which has been ascribed to the permanganate of potassium. It would seem rational, therefore, anticipating the change which follows the administration of the permanganate, to substitute the hydrated dioxide of manganese, which can readily be prepared in a state of purity for medical use.

"Whatever view may be adopted as to the chemical change which the permanganate undergoes in the human economy, the main question is as to its therapeutic value."

Prof. T. Gaillard Thomas, in his address to the New York State Medical Association, expresses faith in the value of the drug as an emmenagogue. Dr. Ringer and Dr. Murrell recommend the remedy. Dr. Doering had given the drug a careful trial in thirty cases of amenorrhœa, depending upon anæmia and general atony of the sexual apparatus. In about half the cases the observations were unsatisfactory from various causes —*i. e.*, inattention to the general directions, want of perseverance in taking the medicine, so that the conclusions arrived at were based upon fourteen cases, in each of which the cause of the amenorrhœa was entirely clear, the remedy carefully and continuously given, and the effect clearly observed.

The cases were tabulated conclusions:

I. Permanganate of potash in doses of from two to four grains is an efficient emmenagogue, if administered for a period of not less than two weeks.

II. Its administration in doses large enough to be effective, is accompanied by severe pain which frequently necessitates a discontinuance of the remedy, and, hence, impairs its value as an emmenagogue.

III. The most efficient method of administering the drug is in capsules, taken midway between meals and followed by large draughts of some pure mineral water, like Silurian.

NEW YORK SURGICAL SOCIETY.

Stated Meeting, March 24, 1885.

The President, R. F. Weir, M.D., in the Chair.

Dr. A. C. Post presented a patient who had a

GANGLION OF THE WRIST,

which he had treated by puncture and evacuation of the contents, and whose case he had already reported

to the Society about one month ago. There remained only a slight hardness in the situation of the swelling. It was possible that there was a slight reaccumulation of fluid, and it might be necessary to resort to further operative procedure.

Dr. Post also presented a patient on whom he had performed an operation for

HYPOSPADIAS

on the third of February, 1885. The patient was over thirty years of age, the floor of the urethra was deficient to the extent of about two centimetres behind the corona glandis. The operation consisted in making a perineal incision into the membranous part of the urethra, and introducing a short catheter into the bladder, and then dissecting a flap of integument four-fifths of an inch wide on the lower surface of the penis, extending back nearly to the scrotum, and denuding a space two-fifths wide on each of the flaps and extending them forward on the under surface of the glans. The flap was then doubled on itself and drawn forward as far as the glans, and its edges attached by fine sutures to the outer edges of the denuded spaces. The deep layer of the doubled flap, which was designed to form the floor of the urethra, was not attached by sutures, but left to attach itself. The wound was washed with a solution of mercuric bichloride, 1 to 1000, and dusted with iodoform. To take off the tension from the base of the transplanted flap, a V-incision was made behind the base of the flap, the triangular flap of skin dissected up from its base, and the sides of the triangle drawn together with sutures, converting the V into a Y. The wound healed perfectly, and the floor of the urethra was thus extended forward beyond the corona glandis. The catheter was withdrawn from the perineal wound within a fortnight after its introduction, and the patient passed his urine freely through the reconstructed canal. Within a very few days the wound of the perineum was entirely healed.

The PRESIDENT asked Dr. Post if he did not attribute the success in a great measure to the perineal opening.

DR. POST replied that he did.

DR. J. L. LITTLE asked if there was any marked curvature of the penis.

DR. POST answered, "No, sir; there was only a slight tendency to curvature."

The PRESIDENT said that the marked curvature of the penis did not usually take place unless the opening in the urethra was further back.

DR. MCBURNEY said it was noticeable that a prominent author on genito-urinary diseases had stated that to make an opening in the perineum like that resorted to by Dr. Post is adding a major operation to a minor one. It has always seemed to Dr. McBurney as being absurd to make such a criticism on the perineal opening, as it was a simple operative procedure, and the opening was one which readily closed.

THE PRESIDENT said he had had occasion to open the perineum five times in the treatment of anterior fistulas by plastic operations, and in no instance was there any failure in the rapid spontaneous closure of the perineal opening for other genito-urinary troubles, and in no instance was any risk to the patient added by the operation.

DR. MCBURNEY had had one patient with extensive fistulous opening in the urethra which required four operations for its cure, and in that instance he made an opening in the perineum which closed after each operation upon the urethra, so as to make it necessary to reopen it each time before doing the next operation.

THE PRESIDENT said that within a few months he had closed in one patient three openings in the normal urethra from tertiary ulceration situated in the corona glandis. The operation consisted of vivifying the edges of the fistulas after making a perineal opening. The broad, freshened edges of the prepuce and inferior surface of the glans were sewed up with several rows of catgut sutures, and in this manner a perfect success was obtained. He thought the multiple rows of fine catgut sutures, as well as the perineal opening, contributed to the good result.

DR. LITTLE remarked, with reference to Dr. Post's case of ganglion of the wrist, that it seemed to him the sac was beginning to refill. He had had a similar case under treatment in which the swelling extended above and below the wrist, and in which he made a free incision, and followed it by the application of a compress for some time, and it seemed to be entirely cured. Subsequently, however, the patient came under observation, and it was found that the sac had refilled, and Dr. Little made a second incision. The tumor was a kind of double swelling, and contained the fluid ordinarily seen in ganglia, with the exception that he did not find any of the so-called rice bodies.

DR. POST said that if the sac in his case should refill he should make a more free opening and treat it as an open wound.

CARCINOMA OF THE PAROTID; SUCCESSFUL REMOVAL OF THE ENTIRE GLAND.

DR. L. A. STIMSON presented a patient, a man sixty-four years of age, from whom, twenty days previously, he extirpated the parotid for carcinoma. The growth made its appearance four years ago, and of late had increased in size rather rapidly, and when the patient came under observation the tumor involved the skin to the extent of about one and one-hal inches by two inches.

Dr. Stimson brought the case before the Society, first, because complete extirpation of the parotid is said by some writers to be too hazardous to be undertaken. In this instance there was no difficulty in removing the gland, and the only vessel of much size which was divided and ligated was what seemed to be the temporal branch of the external carotid, the bifurcation into it and the internal maxillary appearing to be much lower than usual.

Of course, there was complete facial paralysis. The entire gland was involved in the tumor, except at the deeper part, where it seemed to be healthy. The growth had invaded the sterno-cleido-mastoid muscle just below the mastoid process.

At the close of the operation, Dr. Stimson was able to cover the entire wound by a skin-flap, and at the end of a week it had all healed except at the orifice of the drainage-tube; but during the second week it became evident that the deeper upper part of the cavity left by removal of the gland had not closed, and that is now present as an opening about one-third of an inch in

depth, running up in front of the mastoid process. There was also another point low down under the chin, which marked the position of a defective suture where the borders of the incision had not united. At the same time, the wound has remained practically without pus. It was treated by irrigation and bichloride solution during the operation, and dressed with iodoform afterward.

In reply to a question, Dr. Stimson said that the tumor superficially was movable, but the deeper posterior and upper portion was very firmly adherent.

ABNORMALITY OF THE INTERNAL CAROTID ARTERY.

In making a dissection before the operation, Dr. Stimson encountered a peculiarity of the internal carotid artery, which consisted in an S-shaped fold or turn, about one inch above the bifurcation, which drew the artery into a loop three-fourths of an inch across, placed transversely in the neck, so that the upper portion of the loop was three-fourths of an inch superficial to the line of the artery itself.

PARALYSIS OF THE TRAPEZIUS, SERRATUS MAGNUS, AND RHOMBOIDEI.

Dr. Stimson also presented a patient, a man thirty-two years of age, who had always been healthy until the present trouble, which began five months ago with pain in the right side of the neck, followed by difficulty steadily increasing in the use of the right arm and inability to raise the hand to the head, which is now very marked, and with which there is inability also to use the shoulder, especially in bringing it forward. He can raise the arm to the horizontal line, but no further; and when he does so, or when he presses with the raised hand against an object in front, the vertebral border of the scapula becomes very prominent, and the soft parts between it and the spine are deeply depressed to fill the space left between the scapula and the wall of the chest. The line running from the point of the shoulder to the side of the head, formed by the trapezius, is much less full and prominent than on the other side. The deltoid and scapular muscles seem normal, and the inability to raise the hand to the head appears to be due to weakness of the upper fibres of the trapezius.

Recalling the patients whom Dr. Gerster presented to the Society some time ago, he had presented the man partly that the Society might have the opportunity to see him, and partly to obtain a diagnosis. The muscular reaction had been tested by some neurologists with electricity, and the patient had been told that there was marked degeneration of the rhomboid muscle and of the trapezius, but not of the serratus magnus, and that the reaction was not that of degeneration.

The question in Dr. Stimson's mind was, What muscles are at fault, and what is the cause of the paralysis?

The posterior border of the scapula is held down to the chest not by the action of the serratus magnus alone, but by the conjoined action of the posterior fibres of the trapezius, the rhomboidei, and the serratus magnus, and, therefore, when either one of these muscles is paralyzed, the border of the scapula can leave the chest; and the question therefore arises, Which of them, in the present case, is affected, or are all? The levator anguli scapula seemed to be perfect. There was no specific history, and there was no wasting of the muscles of the hand, as might be expected in progressive muscular atrophy; nor was there any history of traumatism.

Dr. Gerster had seen a somewhat similar case in an adult girl after dislocation of the shoulder-joint, in which instance there was paralysis of the serratus magnus on the injured side, due to traumatism accompanied by paralysis of almost all the muscles surrounding the shoulder-joint, a complication which, according to Busch, of Bonn, was not at all uncommon.

Dr. Post remarked that it was hardly conceivable that any single muscle should be paralyzed by itself, unless it was supplied by a single nerve, which distributed branches to no other muscle, as in the case of the fourth and the sixth cerebral nerves.

Dr. McBurney presented a patient upon whom he had performed

EXCISION OF THE KNEE-JOINT.

Henry J., thirty five years of age, a coachman, was admitted to the hospital May 19, 1884. The patient's family history was good; his previous health had been excellent, and there was no history of venereal disease. Four years ago he slipped and struck his left knee, and was laid up for four days. Two years after this the knee became swollen, and the leg was fixed upon the thigh at an angle of forty-five degrees, which lasted for two weeks. There was then an interval of eighteen months, in which the knee seemed to be nearly well. Six months ago the knee began to swell, and to be painful, and three and a half months ago an incision was made, from which pus discharged very freely. Since that date four additional openings in the thigh and leg had been made for the evacuation of pus. Last May Dr. McBurney found the patient with a general suppurating joint, eroded cartilages, sinuses burrowing in every direction through the thigh and leg, and almost down to the ankle-joint, separating the muscles of the calf. He performed complete excision and removed all the joint structures, and thoroughly curetted all the sinuses. The dressings from the date of operation to July 15th were changed as occasion demanded. On August 30th, the sinuses on the anterior and posterior surfaces of the limb were laid open, and again, also, on October 2d, sinuses on the outer side of the leg were laid open and curetted. On November 26th, there was excellent bony union; the foot was in a state of talipes equinus. On February 23, 1885, there was a small sinus, not leading to bone, on the anterior surface of the limb, which, on March 24th, had been healed for some weeks.

The result was a shortening of the limb of not quite three inches, with bony union, which was found to be complete six months after the operation. The bone was treated without either wire, or nails, or other apparatus, except an external apparatus to obtain apposition of the fragments, a method which Dr. McBurney thought possessed advantages. The incisions through the bone were straight. There remained some paralysis of the flexors of the foot which also existed before the operation. The result was not a handsome leg, but Dr. McBurney thought it was much better than a wooden one.

He had performed excision of the knee-joint in nine cases, and in all union had taken place rapidly, the

longest period being six months after the operation, and the shortest six weeks, in the case of a child.

He had had another case in which union took place, and in which he did not use either wire or nails, but simply an outside splint, and the result was satisfactory. Concerning a third case treated in this manner, he was unable to report.

Other things being equal, it was desirable to avoid the introduction through bones of substances which where not absolutely essential.

Dr. Post remarked that the evil resulting from the introduction of wires was not very formidable.

Dr. McBurney remarked that the results were not very serious, but at the same time he had seen prolonged discomfort, considerable pain, and suppuration resulting from the presence of such foreign bodies, and unless the advantage attending the presence of the wire or nails was very compensating, he thought they had better not be used. This was an important point which could, however, only be decided by further experience. In a case like the one just reported, which was the worst he had ever seen, he thought the result was in favor of not using wire to hold the surfaces in apposition.

Dr. Gerster thought that the question could not be decided so simply as this. He believed that there were cases in which the use of wires and nails was not necessary, whereas they might be in some cases essential to get good apposition of the fragments. For instance, if the surgeon had to deal with a fat or very muscular subject, where the fixation of the resected joint in the splint was more difficult than in lean individuals. He had not wired many bones, but he had used nails in six or seven cases—two of exsection of the knee-joint, two in the performance of Mikulicz's operation, and after a number of necrotomies—and had found them exceedingly useful and non-irritating. In the first case of knee exsection, the nails had not been disinfected properly, some suppuration took place, and tuberculous granulations sprung up which rendered revision of the knee-joint necessary, and on laying open several sinuses and removing the granulations, the wounds healed, excellent bony union of the same surfaces had taken place almost immediately after the operation. In other cases no reaction followed the use of nails, and as soon as the nails were withdrawn the tracts closed up without suppuration. Dr. Gerster thought the trouble experienced in the removal of nails was far smaller than from the use of wire, but that their proper disinfection was essential.

Dr. Little asked how long the nails were allowed to remain.

Dr. Gerster replied that it depended upon circumstances. He had left them in as long as four weeks. The nails need not do any harm, as they are no more irritating than so much clean silver wire.

The President remarked that the nails certainly added firmness to the limb, and were easily removed.

Dr. McBurney agreed with Dr. Gerster with regard to the use of nails and wires, but he thought there were few cases in which exsection of the knee or shoulder was demanded in the fat subject. Of course, the operation might be demanded in some cases of traumatism, but the point was not whether nails could be borne without causing irritation, but whether nails were necessary. That they could be borne, there was no question whatever; but, on the other hand, there were cases not infrequently, in which the bone was so disorganized, and abscess cavities were so large, that practically there was not sufficient bone left in which the nail could enter and be of any service.

Dr. Yale said that he had seen one of Dr. McBurney's cases in which he thought that neither nails nor wire would have held the bone together.

Dr. McBurney remarked that it was a case of this character which first led him to try to keep the bony surfaces in apposition without any special kind of retentive apparatus.

Dr. Stimson said that there was another question of importance in the treatment of these cases, laying aside the question of how much benefit either wire or nails afforded. It was well known that the bone encountered in excision was not tough strong tissue, but was spongy, could be readily broken down with the gimlet, and that whatever instrument was used for making the holes for inserting the wires or nails usually made a hole much larger than itself.

The leg and thigh together constitute a very long, heavy body, and any lack of support of the foot will produce a change of angle at the section unless the union there is stronger than that furnished by a nail driven into the spongy bone, as he had seen it, was likely to be. The same was true of wires; those which are used are ordinarily not strong enough to stand any heavy strain, such as can be given by partial weight of the foot, but even if they were, the bone through which they pass is rapidly absorbed about them. In his own last case, one yielding an excellent result, the wire loops promptly became loose and feel out spontaneously.

Dr. Stimson thought that the result desired which could not be obtained with wire could be obtained by attention to one point in the dressing, that is, to support the limb with the heel considerably higher than the buttock in a splint which does not take hold of the limb below the knee, and thus allow the thigh to sink away from it. If this method is observed, simply lifting the limb and placing it upon a posterior splint, gravity keeps the leg in apposition with the thigh, and all that the wires can do in addition is to keep the segments from being rotated one upon the other. The simple action of gravity alone will keep the two cut surfaces of bone in contact, unless the limb is so suspended that the leg alone is fixed and the thigh allowed to sag away from it. The limb should lie loose on a posterior splint, a gutter, so that the leg can follow the thigh as the buttock sinks in the bed.

The President said that he must, however, add that from his experience the introduction of nails did stiffen up the divided bones.

Dr. Sands said that his experience in the use of nails in excision of the knee was limited to two cases. The first was that of a man upon whom he performed the operation a little more than one year ago, employing three nails, which from his lack of experience were not very skilfully introduced. One of the nails which was driven in the median line from below upwards, penetrated so near the popliteal space that, as a matter of precaution, it was removed on the second day. The other nails were allowed to remain two weeks, when being found quite loose they were removed.

The other case was one in which he had excised the knee-joint two weeks ago. It was one of white swelling

of an aggravated character, occurring in a girl sixteen years of age, with very extensive abscesses and sinuses running up to the middle of the thigh as well as down the leg. He introduced three nails in the usual manner, and although the osseous tissues were somewhat soft, considerable force was required to insert them. Dr. Sands was satisfied that the mechanical advantage derived from their use in this instance was very great. It became necessary to dress the wound forty-eight hours after the operation, and three dressings had since been made on account of the soiling of the bandages. While changing the dressings the advantage of using the nails was shown in the fact that the limb could be readily lifted without disturbing the apposition of the sawn surfaces, and at the present time, two weeks after the operation, the nails had not loosened their hold. His own inclination would be to use nails in preference to wire, and if they could be shown to be harmless, as it seemed to have been demonstrated, they should be tried as a means of getting better apposition than could be obtained by the use of external splints, they would also appear to be particularly useful in a case like this one, in which frequent dressings were required.

Dr. Gerster asked Dr. McBurney how he treated the abscesses situated about the knee-joint.

Dr. McBurney replied that they were all freely laid open and curetted; that they were heavily lined with granulations, and they were as thoroughly scraped as possible, after which they were thoroughly irrigated by bichloride solution, and, wherever possible, were packed full with iodoform gauze. Some of them required several scrapings; but, as far as possible, they were laid open at the first operation.

The President remarked that he was very much impressed with the treatment of such sinuses which he saw at Kiel, at Esmarch's clinic, where they were laid open and dissected out and sutured together with deep catgut sutures, after which they healed promptly.

Dr. Gerster said that he raised the question for the purpose of referring to what he regarded as a widespread error. It had been said that if drainage-tubes were used after exsecting tuberculous joints, and were left in for a certain length of time, persistent and troublesome sinuses would remain behind as a consequence of the use of the drainage-tubes. This seemed to him to be erroneous, since he thought that any sinus kept open by a drainage-tube, whose walls were in a healthy condition, would close up almost immediately after removal of the tube. If a sinus did not close up, it was due to the fact that it was lined with granulations of a specifically morbid character, containing tubercle bacilli, whose granulations are prone to decay and lack the tendency to form cicatricial tissue. The form of treatment referred to by Dr. McBurney was the only proper one, and removal of the entire capsule and all the tuberculous, viz., cheesy and gelatinous, tissues about the joint was essential to a speedy and thorough cure. In Germany all these foci were methodically removed as if they were malignant disease, the entire capsule was excised, and in almost all cases the operation wound healed by primary union. He had seen seventeen cases in Kiel in which this had taken place. Whenever such diseased tissues were left behind, a relapse of the tuberculosis was established, and generally all the remaining healthy parts of the granulating wound were again infected.

Dr. Briddon said that he had seen three cases illustrating this condition within the last two or three months. In one there was a sinus nearly in front of the head of the humerus, which was opened and scraped out thoroughly. It contained tuberculous tissue. The cavity was filled with iodoform, a bone-drain was introduced, and the operation wound required only one dressing afterward. The sinus healed completely, and all the motions of the shoulder-joint were restored within one month. In another case the sinus was in a similar condition, and was treated in the same way with the same good result. Both of these cases occurred in children, and the first dressings were removed at the end of two weeks. In another case of tuberculous disease of the knee-joint all the granulations were removed from the deep recess of the sinuses, and three bone-drains were introduced. When the dressings were removed, at the end of thirty days, it was found that union had not taken place, and it was doubtful whether it would ever occur.

Dr. J. C. Hutchison then read a paper entitled

TWO CASES OF LIGATURE OF THE COMMON CAROTID ARTERY FOR TRIGEMINAL NEURALGIA.

(See page 394.)

Dr. Post remarked that one important point brought forward by the reader of the paper was the influence of dampness on neuralgic affections. He believed it had been shown that change of climate exerted a powerful influence on such affections, especially going from a dry to a damp climate. This miner had a recurrence of his difficulty after returning to his occupation. Dr. Post regarded this as an important point with reference to the treatment of these forms of neuralgia.

MULTIPLE RUPTURE OF THE ILEUM.

The President presented a specimen which showed the possibility of laparotomy in abdominal injuries. An employé of the elevated railway got caught between two cars and was severely jammed. The immediate effects were not specially prostrating, as the patient walked from the Chatham Street Station to the Grand Street Ferry, also three or four blocks on the other side of the river before reaching his home. When he arrived he complained of considerable pain in the abdomen, and called a physician. This occurred on a Sunday. With the exception of some increase in the frequency of the pulse and tenderness of the abdomen, the patient did very well until Wednesday evening, when he began to vomit. After a very short time the vomiting became stercoraceous, and the physician in attendance, supposing that he had to do with obstruction, administered a very large enema, which was followed by a great deal of pain, and the patient's condition rapidly grew worse. Dr. Weir was asked to see him on Thursday evening, and to be prepared to perform laparotomy, but on his arrival the man had been dead about two hours.

The autopsy was held three hours after death. There was a sharply outlined ecchymosis stretching across the belly just below the umbilicus. It was found that the contusion had torn apart the fatty tissues to the extent of four or five inches on each side of the median line,

but that the muscular tissues had not been torn except a very few fibres, and that there were several blood extravasations under the peritoneum, which, however, was not torn. The ileum at the distance of nearly two feet from the cæcum bore marks of injury, consisting in three lacerations, and between two of these openings for a distance of six inches there was a mass of gangrenous gut, from the damage done apparently to the mesentery. Around this there was some fecal extravasation, bound in generally by recent adhesions. At one place there was apparent giving away of this limitation of inflammatory product, and there a slight extravasation of fecal matter toward the loin on that side had taken place.

It was a case which had it been seen earlier, and the abdomen opened, would have offered a very good chance for a successful issue, as the injury was limited, and up to Wednesday evening the patient was in a fair condition.

Dr. Sands asked if there were any signs by which a diagnosis could have been made early.

The President replied that the appearance of the symptom of vomiting, conjoined with the history of the case, would have warranted the surgeon in making an exploratory incision.

NEWS ITEMS.

Cholera Precautions in Illinois.—In connection with the Sanitary Survey of the State and House-to-house Inspection, now being prosecuted under direction of the State Board of Health with reference to the probable appearance of Asiatic cholera in this country, the Board has just issued circular-letter No. 6, addressed to county clerks, and requesting that the work of getting public institutions into good sanitary condition be completed with as little delay as possible. Much work of this character was done during the past summer and fall, in response to the circular-letter of the Board issued in July last. But, in addition to what remained to be done when cold weather suspended operations, there must since have accrued, in many cases, accumulations of filth and refuse which should now be promptly removed; defects in plumbing, drainage, and sewerage, disclosed during the winter, should be repaired; and the effects of the occupancy of dormitories, workshops, wards, cells, and other apartments should be remedied by a thorough spring cleansing.

The officers in charge of almshouses, jails, and all other public buildings under the control of the County Board, are notified to commence this work at once.

Especial attention should be given to the location and condition of privies and water-closets at these places, as also at court houses and elsewhere. Vaults should be emptied before warm weather makes such work dangerous, and then be thoroughly disinfected with sulphate of iron (copperas). Where these vaults are within fifty feet of any source of water-supply—well, spring, pond, lake, or running stream—their further use should be abandoned, and, after being emptied, they should be disinfected and filled up with clean, dry earth—one of the best disinfectants. The new vault should not be less than fifty feet from the nearest water-supply; should be water-tight; ventilated by a four-inch shaft, opening above the roof; the contents should be kept inoffensive by the use of some cheap disinfectant; and the building and its surroundings should be kept in the cleanest attainable condition. Where practicable, the substitution of the earth-closet system for the subterranean vault-storage is recommended. In either case the frequent removal of the contents, and their safe disposal, by use as fertilizers, are necessary sanitary measures.

The source of water-supply, and its storage and distribution, should be carefully inquired into, and all possible causes of pollution should be removed. A pure water-supply is of the first importance to health under all circumstances; but among numbers of persons living under the conditions which obtain in county institutions, its importance is increased. Epidemics of diarrhœa and dysentery may be caused by impure water; while typhoid fever and Asiatic cholera are spread more commonly through the water-supply than in any other way.

These remarks and suggestions will indicate the character of the work which the Board considers it desirable should be accomplished before warm weather sets in, not alone through fear of cholera, but in the interest of public health, and, consequently, of true economy.

A similar circular was recently issued to railroad managers, setting forth that the spread of Asiatic cholera is due oftener to the pollution of the water-supply than to any other one cause. There is no commoner mode of such pollution than through foul, badly constructed and improperly located privies and water-closets. The disease, in this country, being always due to importation, and its spread being, most commonly, by persons travelling from place to place, it follows that railway privies and water-closets are especially exposed to the danger of cholera infection. In view of these facts, it is requested that all such places in connection with stations, freight houses, shops, and round-houses be at once inspected and put in good sanitary condition.

Responses have been received from nearly all the roads, and one of the most important lines has already completed the work indicated along the entire extent of its road.

The International Medical Congress, Washington, 1887.—The Committee on Organization of each Section is composed of the President, the Vice-Presidents, and Secretaries of the Section, and of the Council. The list of the officers was published in our issue of last week. The following are announced as the members of the several Councils.

Section I.—Medical Education, Legislation, and Registration.—*Council:* Nathan S. Davis, M.D., LL.D., of Chicago; Henry D. Didama, M.D., of Syracuse, N. Y.; Henry Gibbons, M.D., of San Francisco; Daniel C. Gilman, LL.D., President Johns Hopkins University, of Baltimore; James F. Harrison, M.D., of University of Virginia; Charles A. Lindsley, M.D., of New Haven, Conn.; William Pepper, M.D., LL.D., of Philadelphia; J. F. Prioleau, M.D., of Charleston, S. C.; John H. Rauch, M.D., of Springfield, Ill.; L. McLane Tiffany, M.D., of Baltimore.

Section II.—Anatomy. *Council:* Harrison Allen, M.D., of Philadelphia; Frank Baker, M.D., of Washington; Thomas Dwight, M.D., of Boston; Francis L.

Parker, M.D., of Charleston, S. C.; Charles T. Parkes, M.D., of Chicago; Thomas T. Sabine, M.D., of New York; Nicholas Senn, M.D., of Milwaukee; Francis J. Shepherd, M.D., of Montreal; Robert W. Shufeldt, M.D., of U. S. Army; Burt G. Wilder, M.D., of Ithaca, N. Y.

Section III.—Physiology. *Council:* G. Baumgarten, M.D., of St. Louis; Henry G. Beyer, M.D., of U. S. Navy; Henry P. Bowditch, M.D., of Boston; Henry F. Campbell, M.D., of Augusta, Ga.; Austin Flint, Jr., M.D., of New York; William Lee, M.D., of Washington; John J. Mason, M.D., of Newport, R. I.; S. Weir Mitchell, M.D., of Philadelphia; Henry Sewall, M.D., of Ann Arbor, Mich.

Section IV.—Pathology. *Council:* Christian Fenger, M.D., of Chicago; Reginald H. Fitz, M.D., of Boston; Edward G. Janeway, M.D., of New York; James B. Johnson, M.D., of St. Louis; Thomas E. Satterthwaite, M.D., of New York; George M. Sternberg, M.D., of U. S. Army; James Tyson, M.D., of Philadelphia; William F. Whitney, M.D., of Boston.

Section V.—Medicine. *Council:* Samuel C. Chew, M.D., of Baltimore; William H. Draper, M.D., of New York; William H. Geddings, M.D., of Aiken, S. C.; William W. Johnston, M.D., of Washington; George A. Ketchum, M.D., of Mobile; Francis Minot, M.D., of Boston; William Pepper, M.D., LL.D., of Philadelphia; Beverley Robinson, M.D., Andrew H. Smith, M.D., of New York; James T. Whittaker, M.D., of Cincinnati.

Section VI.—Surgery. *Council:* John Ashhurst, Jr., M.D., of Philadelphia; David W. Cheever, M.D., of Boston; Phineas S. Conner, M.D., W. W. Dawson, M.D., of Cincinnati; George E. Fenwick, M.D., of Montreal; Frederic H. Gerrish, M.D., of Portland, Me.; J. C. Hutchison, M.D., of Brooklyn; Christopher Johnston, M.D., of Baltimore; Levi C. Lane, M.D., of San Francisco; Thomas M. Markoe, M.D., of New York; Alan P. Smith, M.D., of Baltimore; J. Ford Thompson, M.D., of Washington; Theodore R. Varick, M.D., of Jersey City; Samuel B. Ward, M.D., of Albany, N. Y.; Robert F. Weir, M.D., of New York.

Section VII.—Obstetrics. *Council:* Robert P. Harris, M.D., of Philadelphia; Alfred F. A. King, M.D., of Washington; William T. Lusk, M.D., of New York; Matthew D. Mann, M.D., of Buffalo; Theophilus Parvin, M.D., of Philadelphia; John Scott, M.D., of San Francisco.

Section VIII.—Gynæcology. *Council:* William H. Baker, M.D., of Boston; William Gardner, M.D., of Montreal; William Goodell, M.D., of Philadelphia; A. Reeves Jackson, M.D., of Chicago; J. Taber Johnson, M.D., of Washington; George H. Lyman, M.D., of Boston; Emil Noeggerath, M.D., T. Gaillard Thomas, M.D., of New York; Ely Van de Warker, M.D., of Syracuse, N. Y.

Section IX.—Ophthalmology. *Council:* Cornelius R. Agnew, M.D., Charles S. Bull, M.D., of New York; Swan M. Burnett, M.D., of Washington; A. W. Calhoun, M.D., of Atlanta, Ga.; Hasket Derby, M.D., of Boston; Samuel J. Jones, M.D., of Chicago; Herman Knapp, M.D., Edward G. Loring, M.D., of New York; William F. Norris, M.D., of Philadelphia; W. W. Seely, M.D., of Cincinnati; Samuel Theobald, M.D., of Baltimore; Oliver F. Wadsworth, M.D., Henry W. Williams, M.D., of Boston.

Section X.—Otology. *Council:* Albert H. Buck, M.D., of New York; John Green, M.D., of St. Louis; J. Orne Green, M.D., of Boston; Stephen O. Richey, M.D., of Washington; Daniel B. St. John Roosa, M.D., LL.D., Samuel Sexton, M.D., of New York; George Strawbridge, M.D., of Philadelphia.

Section XI.—Dermatology and Syphilis. *Council:* I. Edmondson Atkinson, M.D., of Baltimore; L. Duncan Bulkley, M.D., Edward L. Keyes, M.D., Fessenden N. Otis, M.D., Robert W. Taylor, M.D., of New York; Edward Wigglesworth, Jr., M.D., of Boston; Henry C. Yarrow, M.D., of Washington.

Section XII.—Nervous Diseases and Psychiatry. *Council:* Roberts Bartholow, M.D., LL.D., of Philadelphia; Allen McLane Hamilton, M.D., of New York; Walter Hay, M.D., LL.D., of Chicago; Francis T. Miles, M.D., of Baltimore; James J. Putnam, M.D., Samuel G. Webber, M.D., of Boston; Horatio C. Wood, M.D., of Philadelphia; John P. Van Bibber, M.D., of Baltimore.

Section XIII.—Laryngology. *Council:* F. H. Bosworth, M.D., of New York; William H. Daly, M.D., of Pittsburg; E. Fletcher Ingals, M.D., of Chicago; J. N. Mackenzie, M.D., of Baltimore; George W. Major, M.D., of Montreal; E. Carroll Morgan, M.D., of Washington; William Porter, M.D., of St. Louis; E. L. Shurley, M.D., of Detroit, Mich.

Section XIV.—Public and International Hygiene. *Council:* Henry B. Baker, M.D., Lansing, Mich.; Alfred L. Carroll, M.D., of Albany, N. Y.; Granville P. Conn, M.D., of Concord, N. H.; William H. Ford, M.D., of Philadelphia; Daniel W. Hand, M.D., of St. Paul; Jerome H. Kidder, M.D., of Washington; Charles A. Lindsley, M.D., of New Haven, Conn.; J. N. McCormick, M.D., of Bowling Green, Ky.; J. H. Rauch, M.D., of Springfield, Ill.; Joseph H. Raymond, M.D., of Brooklyn, N. Y.; Joseph R. Smith, M.D., of U. S. Army; Stephen Smith, M.D., S. O. Van der Poel, M.D., LL.D., of New York; H. P. Wolcott, M.D., of Cambridge, Mass.

Section XV.—Collective Investigation, Nomenclature, and Vital Statistics. *Council:* Nathan Allen, M.D., of Lowell, Mass.; Richard A. Cleeman, M.D., of Philadelphia; J. H. Hollister, M.D., of Chicago; Abraham Jacobi, M.D., of New York; James T. Reeve, M.D., of Appleton, Wis.; James Tyson, M.D., of Philadelphia.

Section XVI.—Military and Naval Surgery and Medicine. *Council:* Edmund Andrews, M.D., of Chicago; Delavan Bloodgood, M.D., of U. S. Navy; R. B. Bontecou, M.D., of Troy, N. Y.; John H. Brinton, M.D., of Philadelphia; Julian J. Chisolm, M.D., of Baltimore; P. O. Hooper, M.D., of Little Rock, Ark.; E. J. Marsh, M.D., of Paterson, N. J.; Claudius H. Mastin, M.D., of Mobile; George Peck, M.D., of U. S. Navy; W. F. Peck, M.D., of Davenport, Iowa; Charles Smart, M.D., of U. S. Army; J. Rufus Tryon, M.D., of U. S. Navy; Alfred A. Woodhull, M.D., of U. S. Army.

Section XVII.—Practical and Experimental Therapeutics. *Council:* Robert Amory, M.D., of Boston; Edward Curtis, M.D., Laurence Johnson, M.D., of New York; Henry M. Lyman, M.D., of Chi-

cago; Samuel Nickels, M.D., of Cincinnati; Isaac Ott, M.D., of Easton, Pa.; Daniel Webster Prentiss, M.D., of Washington; Charles Rice, M.D., of New York; Charles H. White, M.D., of U. S. Navy; Thomas F. Wood, M.D., of Wilmington, N. C.

Section XVIII.—Diseases of Children. *Council:* F. Forchheimer, M.D., of Cincinnati; John M. Keating, M.D., of Philadelphia; William Lee, M.D., of Baltimore; John H. Pope, M.D., of Marshall, Texas; John H. Ripley, M.D., of New York.

Section XIX.—Dental and Oral Surgery. *Council:* W. C. Barrett, M.D., of Buffalo; Thomas Fillebrown, M.D., of Boston; F. J. S. Gorgas, M.D., of Baltimore; Edward Maynard, M.D., of Washington; H. J. McKellops, D.D.S., of St. Louis; W. H. Morgan, M.D., of Nashville; C. Newlin Peirce, D.D.S., of Philadelphia; L. D. Shepard, D.D.S., of Boston; James Truman, D.D.S., J. W. White, M.D., of Philadelphia.

The American Surgical Association will hold its annual meeting in the Army Medical Museum, Washington, on April 21st, 22d, 23d, and 24th. The following papers are announced as the programme:

1. The Field and Limitation of the Operative Surgery of the Human Brain. By John B. Roberts, M.D., of Philadelphia.
2. An Experimental and Clinical Study of Air Embolism. By N. Senn, M.D., of Milwaukee.
3. Nephrectomy; its Indications and Contraindications. By Samuel W. Gross, M.D., of Philadelphia.
4. Nephrolithotomy. By L. W. McLane Tiffany, M.D., of Baltimore.
5. The Healing of Arteries in Man and Animals after Ligature. By J. Collins Mann, M.D., of Boston.
6. The Immediate Cure of Fistula in Ano. By Stephen Smith, M.D., of New York.
7. Etiology of Tetanus. By P. S. Conner, M.D., of Cincinnati.
8. A Case of Cholecystotomy. By C. T. Parkes, M.D., of Chicago.
9. Some Points in the Surgery of the Hypertrophied Prostate. By J. W. T. Gouley, M.D., of New York.
10. Phosphorus Necrosis; its Causes, Treatment, and Prevention, with Reports of Cases. By J. Ewing Mears, M.D., of Philadelphia.

State Medical Society Meetings.—The Medical Society of the State of Tennessee meets at Nashville, and the Medical Association of the State of Alabama meets at Greenville, on Tuesday, April 14th.

The Medical Society of California meets at San Francisco, the Mississippi State Medical Association meets at Greenville, and the Medical Association of Georgia meets at Savannah, on Wednesday, April 15th.

The German Surgical Congress met in Berlin on the 8th inst., and the following papers were announced to be read:

1. Bruns (Tübingen), Concerning Cretinism after Extirpation of the Thyroid Body.
2. Vogt (Greifswald), *a*. The Simple Method for the Radical Cure of Hydrocele; *b*. The *Technique* of Gastrotomy.
3. Bidder (Berlin), The Origin and Cure of Intestino-utero-vaginal Fistula.
4. Braun (Jena), The Operative Treatment of Intussusception.

The committee in charge of the organization of the meeting suggest that members of the Congress will on the occasion of the present meeting make known either verbally or in writing their experience concerning the more recent operations for harelip. It is desirable to state:

a. To what extent and how often the palatal bone probably heals.

b. What method of operation gives most favorable final results.

c. And the results of total removal of the palatal bone.

It is also desirable that information be afforded as to the relative condition of adults who were operated upon during childhood by a given method.

It is also proposed to discuss the surgical aspects of tuberculosis.

The Chair of Physiology at the University of Pennsylvania.—At a meeting of the Board of Trustees of the University held on Tuesday last, Dr. Edward T. Reichert, Demonstrator of Experimental Physiology at the University, was assigned to deliver the lectures on physiology during the coming year, pending a vacancy in the professorship of physiology.

Jefferson Medical College, of Philadelphia, held its annual commencement on the 2d instant, and the degree of M.D. was conferred on 176 candidates. The degree of LL.D. was also conferred on Dr. Austin Flint, Jr., M.D.

Obituary Record.—Died in New York on April 4th, of peritonitis, James Lawrence Little, M.D., Professor of Clinical and Operative Surgery in the New York Post-Graduate Medical School, and Professor of Surgery in the University of Vermont. Dr. Little was born in Brooklyn, on February 19, 1836, and studied medicine under the late Dr. Willard Parker, and graduated from the College of Physicians and Surgeons. He served as an army surgeon during the civil war.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MARCH 31 TO APRIL 6, 1885.

Gardner, Jno. de B. W., *Captain and Assistant Surgeon.*—Ordered for temporary duty at Fort McHenry, Md.—*S. O. 64, Department of the East*, March 28, 1885.

Carter, E. C., *First Lieutenant and Assistant Surgeon.*—Granted one month's leave, with permission to apply for one month's extension, to take effect upon the arrival of another medical officer at his post.—*S. O. 30, Department of Arizona*, March 23, 1885.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE WEEK ENDING APRIL 4, 1885.

Murray, R. D., *Surgeon.*—Granted leave of absence for one week, March 31, 1885.

Bratton, W. D., *Assistant Surgeon.*—To proceed to New York, N. Y., for temporary duty, April 2, 1885.

Watkins, R. B., *Assistant Surgeon.*—To proceed to New Orleans, La., for temporary duty, April 2, 1885.

APPOINTMENTS.

The following candidates having passed the examination required by the Regulations were appointed Assistant Surgeons by the Secretary of the Treasury, April 1, 1885, viz.:

William D. Bratton, M.D., of South Carolina, and

Ralph B. Watkins, M.D., of Connecticut.

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. XLVI. SATURDAY, APRIL 18, 1885. NO. 16.

ORIGINAL LECTURES.

CHRONIC INTERSTITIAL NEPHRITIS (CONTRACTING KIDNEY).

A Clinical Lecture, delivered March 12, 1885.

BY ROBERT T. EDES, M.D.,

JACKSON PROFESSOR OF CLINICAL MEDICINE IN HARVARD UNIVERSITY.

LECTURE II.

THE case before us presented, you recollect, another important sign—*i. e.*, albuminuric retinitis. There are two entirely different causes for the loss of sight met with in renal diseases; one cerebral, coming, and perhaps going, suddenly, unattended by any ocular lesion, and closely connected with the condition which may lead to convulsions; the other, developing more slowly perhaps, never becoming extreme, perhaps being detected almost accidentally, and depending on changes taking place in the nerves and retina. These changes have been often described and figured, and you may see here (*Boston City Hospital Reports*, Second Series) a plate drawn by Dr. Wadsworth from such a case. They are not, however, absolutely characteristic, although sufficiently so, when found in a case not known to be otherwise diseased, imperatively to demand examination of the renal and cardiac condition. It has happened not infrequently that these changes have occurred at so early a period as to be the first intimations of the approach of Bright's disease.

An erroneous diagnosis may for a time be entertained on the basis of retinitis and an accidental albuminuria.

Last Spring I saw a middle-aged man, who, on account of failing sight and severe headache on the right side, consulted his own physician and two oculists. The condition of the retina, with white patches and extravasation of blood, led to an examination of the urine, which was found to contain albumen. The left eye was, however, normal. When I saw him he had intense headache, the eye was tense and prominent, with dilated pupil and a mere remnant of vision; the urine contained a small amount of albumen, had a specific gravity of 1025, with a very few transparent casts mostly mucous, beside strings of mucus. There were no localized paralyses, but the severe pain led me to suspect an intracranial tumor, so that I administered iodide of potassium. In a few days, however, the pain became so intense that after a consultation Dr. Derby removed the eye. There was no morbid growth therein, or behind it in the orbit.

Several months afterward he appeared nearly well, the urine being of specific gravity 1018, with still a slight trace of albumen, and a few small transparent casts. He thought he was passing a considerable quantity of urine, but according to more detailed statements it was not in excess of 1500 c. c.

The absence of heart signs, of exaggerated tension, of vomiting, the disappearance of the headache after removal of the eye, and the freedom of the other retina from lesion, as well as the normal quantity and specific gravity of the urine, made me consider this case as an ophthalmitis of unknown origin rather than albuminuric retinitis, notwithstanding the presence of albumen and a few transparent casts. I shall, however, be much interested in his future history.

The knowledge of the existence of retinitis is a strong point in the diagnosis of nephritis, but does not definitely decide it to be of the interstitial form, although adding to the probability in that direction. The prognosis of the lesion of itself is not absolutely unfavorable. It may be recovered from independently of the general disease, but is usually closely connected with it.

You are aware of the intimate relationships which exist between cerebral and renal affections and which are of various kinds.

Headache is a very common symptom in these cases, and was at one time present in the one which has been serving as our text. Such a headache is often apparently independent of any cerebral lesion, and is spoken of as uræmic. I doubt the correctness of the name, if it is intended to signify that the pain is caused by an accumulation of urea in the blood. Bartels has shown, and some quantitative analyses made on the urines of patients in this service by Dr. Wood confirm the statement, that during the most of the period of interstitial nephritis the kidneys are amply sufficient to carry off all the urea that is made. The secreting structure of the kidney, like that of other organs, is more than necessary for ordinary needs, and may suffer considerable diminution, as by the ablation of one kidney or the partial destruction of both, before the obstruction to secretion begins.

What is the cause of this sort of headache we cannot say with positiveness, any more than we can with many other kinds, but when we recollect how prominent a part in the theory of headache has been played by supposed vaso-motor constriction and dilatation, it is quite as easy to refer it to the condition connected with more or less rigid arteries and increased tension, as to a poison circulating in the blood.

It may often be relieved by measures which appeal much more directly to nervous function than to the excretions, such, for instance, as caffeine, or a small dose of morphia, both of which act too quickly for their beneficial effects to be accounted for by the removal of any excrementitious substance. It might be said that the hot air bath relieves by eliminating substances by the skin which should normally pass off by the kidneys, and in some cases this is no doubt true, and the same remark will apply to pilocarpine, but it must be remembered that the extensive and intense determination of blood to the skin caused by these agencies, produces a notable fall in the arterial tension and may relieve independently of elimination. If we choose to call these headaches uræmic, we must recollect that in many instances we are indulging in a figure of speech which serves only to mark

their connection with renal disease, and does not accurately describe their true causation.

Cerebral hemorrhage is well known to be so frequently connected with interstitial nephritis, that this latter condition may be very strongly suspected to exist, even in default of other marked symptoms, when apoplexy, not dependent on heart disease, occurs in young or middle-aged persons. In one well-marked case of this kind an excessively severe headache partially relieved by morphine was followed by a rapidly developing left hemiplegia. After death, some four months later, beside the small kidneys, large heart, and degenerated arteries, the brain was found unusually firm with small, cyst-like cavities in the white cerebral substance, and reddish-brown spots (old hemorrhages) in the corpora striata.

When you are asked, as you undoubtedly will be, why Bright's disease is so much more common now than formerly, I think you will be justified in attributing a part of the apparent increase to a transfer of a considerable number of cases from the headings, apoplexy, heart disease, etc., under which they would have been registered, to that of the now so popular nephritis.

When we remember that some organic cerebral diseases may give rise to certain symptoms supposed to be characteristic of nephritis, such as albumen, a few casts, and even poluria, it can be easily understood that difficulties in diagnosis may arise requiring considerable attention to solve. The decision must be made largely, I think, by a careful search for further symptoms of either disease, as, for instance, constancy of the headache in one locality, localized paralyses as of the ocular or facial muscles, localized convulsive movements, or paræsthesiæ, pointing to cerebral disease; or, on the other hand, hypertrophy of the heart, slight dropsy and especially casts of the kind which indicate serious inroads upon the secreting structure of the kidney, epithelial, fibrinous, and fatty, instead of purely hyaline, pointing to the nephritis and arterial sclerosis as the primary troubles, and the cerebral symptoms as secondary.

There may be cases, however, as of severe nervous headaches with vomiting, in which the cerebral disturbance is not constant and is apparently not dependent upon any special change in the condition or function of the kidney, where we may doubt, even in the presence of albumen and casts, exactly how intimate a connection exists between them.

Among other nervous symptoms there is one which some of you have seen to perfection in our patient, in the ward, since he was before the class. You know how common a symptom dyspnœa is in such cases. It may be due to effusion of serum into the pleuræ (hydrothorax), into the lung tissue (œdema), or to congestion of the lungs when the heart is failing. There is, however, a purely nervous dyspnœa, and one form of this is seen in our patient as the so-called Cheyne-Stokes respiration. This is a rhythmical rise and fall of the intensity of respiration, so that if we begin with the period, of apnœa, the respirations, at first barely perceptible, grow stronger and stronger until, after reaching the maximum of dyspnœa (which is not necessarily intense), they gradually fade away again and cease. The complete cycle generally takes somewhere in the neighborhood of a minute, the period of apnœa lasting for from ten to twenty or more seconds. Singularly enough the pulse, during these changes, does not alter its rate or force. This breathing is not all the time present in our patient, but I presume denotes "the beginning of the end."

This symptom does not denote, as was at one time supposed, fatty degeneration of the heart, but may be present with that as with other cardiac lesions. It is not uncommon in cerebral disease, and, as you see here and will probably see in other cases, it is not at all an infrequent accompaniment of interstitial nephritis. Unless I am mistaken, I have seen something of the kind, but with shorter intervals (four or five respirations between the pauses), in a person sleeping heavily under opium.

Its mechanism is not clear, but for an exposition of various theories as well as one of his own, you may consult the recent work of Dr. Bramwell on *Diseases of the Heart*. Whatever the details of its production may be, its meaning in general is diminished sensibility of the respiratory centre in the medulla oblongata, and it is usually a sign of very evil significance. It is not, however, of absolutely fatal import, or the immediate forerunner of death. You may see it during the early days of a cerebral hemiplegia in a patient who lives for months afterward. A woman told me that her husband, at a time when he was going into town every day to his business, used to "hold his breath so long" when asleep that it frightened her. This was, however, not many weeks before his death with atrophied kidneys and hypertrophied heart; and I always supposed that this "holding of the breath" was Cheyne-Stokes respiration. He certainly had it afterwards, but for a few days before his death the respiration became regular, though he was completely comatose. At some times it seems to be accompanied with very little disturbance of any kind, but at others the period of commencing respiration is attended with uneasy movements and manifestations of distress.

Convulsions, which you may have wondered not to hear me say more about, as of the nervous symptoms of interstitial nephritis, are more common in parenchymatous nephritis, and I shall speak of them in that connection should a suitable case occur during my term of service.

True epileptic convulsions may occur with interstitial nephritis, as a mere accidental coincidence and would be very likely to lead to a diagnosis of so-called uræmia in a case in which nothing was known of previous history.

A man aged about 52, was for two or three years in the habit of coming to the hospital after a "fit." He used to appear rather stupid, as often happens after an epileptic convulsion, but went out after a few days in his usual condition of health. He said he had the fits ever since childhood, and professed to be well in the intervals. Whenever his urine was examined it was found to be of low specific gravity, and to contain albumen and casts. The area of cardiac dulness was increased, and there was a systolic murmur at the apex. He finally entered for dyspnœa and died here. He was found to have pericarditis, hypertrophy of the heart with mitral stenosis (not excessive), and atrophied kidneys.

In further illustration of interstitial nephritis at an earlier stage, let me call your attention to this German, a beer drinker, aged 45. Four years ago his eyesight failed, but for this we find corneal opacities to account. Last year his legs were painful and swollen. Further

questioning as to the exact location and character of the swelling makes it probable that there was œdema in addition to some genuine rheumatic swelling, since it existed between the joints as well as at them. For a year he has had to get up in the night to pass urine. This is a circumstance which should lead to further investigation, but is not to be taken as proof positive of increased quantity of urine, as it may be due to prostatic irritation or even a mere nervous trick. Measurement is the proper test for polyuria, and, so far as we can make out, this man passes a little above the average. It is of specific gravity from 1007½ to 1010, contains a trace of albumen, a very little free blood, with hyaline and granular casts, and a little fatty epithelium.

The area of the heart's dulness is a little increased to the left, with rather a strong impulse and a slight systolic souffle at the apex. The tracing shows rather a slight elevation of the tidal wave, but a gradual and almost unbroken line of descent—that is, considerable resistance to the passage of the blood out of the vessels without a powerful action of the heart; a sort of relative high tension, though not of the most characteristic kind. He has white spots in both retinæ, but no hemorrhages. He came in for pain and swelling in his legs which symptoms soon disappeared, probably under the influence of rest and warmth, as he has had no very active treatment. He will go out in a few days with cautions as to keeping warm, not taking too much beer, and keeping his bowels in good order.

This coincidence of interstitial nephritis with rheumatism is not rare, but is perhaps not so intimate as that with gout, of which we in this country see much less, but to which the English writers on the subject attach much importance in the etiology of the contracting kidney.

Our next case I certainly should not pick out as a typical one to illustrate a clinical lecture, but as the patient is here, we will see how far it belongs to the class we have been talking about. It is that of a man, J. P., aged 53, who has experienced many vicissitudes and endured hardships. He has been a drinker, but is said not to have indulged much of later years. Two months ago he began to vomit, usually in the morning before breakfast, sometimes vomiting his breakfast, seldom his dinner or supper, never blood. Headache and failing eyesight for two months. His urine of specific gravity 1011, 1014; very slightly increased in quantity (about 60 ounces per diem), with a very large trace of albumen. Hyaline, fine and brown granular casts, and some free blood. He has hemorrhages in both retinæ; the heart's dulness terminates well within the nipple, and the impulse is barely perceptible. The sphygmograph shows nothing characteristic, certainly not high tension. He entered the hospital chiefly for weakness and "nervousness," and I suspected at first from his general appearance that alcoholism had a good deal to do with his condition. This suspicion I soon found to have little foundation. I must confess the diagnosis is not clear; the absence of cardiac enlargement (rather the contrary condition being present) and of increased tension, as well as the character of the urine; indicating a more active process, are strongly against the supposition of interstitial nephritis. It is true that the increased tension might have disappeared as the general nutrition and especially that of the heart became impaired under the influence of the long-continued vomiting, but this would not have destroyed the signs of cardiac hypertrophy. On the other hand, the urine was not typical of that of advanced parenchymatous nephritis, and the absence of the slightest trace of dropsy would be strongly against this supposition. His appearance and the history of failing health for some years, will hardly allow us to consider it a case of acute disease. We have nothing definite, not even irregularity, to point to the heart, and if this organ were the principal seat of disease, we ought, by this time, to have dropsy and much more dyspnœa than he appears to suffer from.

Postscript.—Since our last lecture two cases which have been before us have died. In one of them (J. P.) I regret that no autopsy could be obtained, so that we can add little to our deficient diagnosis. His urine became quite scanty and the vomiting, which had entirely disappeared after his entrance into the hospital, returned to a slighter extent. He became "nervous," not liking to be left alone and finally somewhat delirious. Notwithstanding the diminution in the urine, there was no dropsy whatever, and nothing which could be properly called uræmia, unless the excessively slow respiration unaccompanied by coma during the last few days of his life is to be accounted as such.

Three days before his death he had a severe attack of thoracic distress, and very loud to and fro, evidently pericardial, friction sounds were heard for the first time. There was no enlargement of the area of dulness either to right or left, or upwards; after the first attack it seemed to give him almost no trouble. At this time, or possibly a little before, a pulsation was noticed in the veins of the neck, especially on the right side.

I think we must regard the case as one of those exceptional ones in which interstitial nephritis, with very probably more or less parenchymatous superadded, is unaccompanied by cardiac hypertrophy—that it was a local, and not a general disease.

The other case was that (B. S.) which was our starting point in these lectures. His somnolence and stupor deepened until he died. The autopsy showed the kidneys to be in a condition of interstitial inflammation, being somewhat reduced in size, the surface irregular, although the capsule was not adherent. The cortical substance was not disproportionately diminished, but appeared more transparent than normal. The microscope showed patches of new cell formation throughout the cortical substance, but especially near the surface. There were casts in some of the tubes. The small arteries within the kidneys were thickened and in some places atheromatous. Everywhere throughout the body, so far as examined, the arteries were thickened, stiffened, and atheromatous. So extensive was the latter process that it could be observed in the little vessels, as large as a pin, on the surface of the brain. The coronary arteries were also much involved. The heart, especially the left ventricle, was hypertrophied, and the valves, although containing some yellowish patches, in every way competent. Notwithstanding their atheromatous condition, the coronary arteries contained no thrombi, and the muscle of the heart, with the exception of the tips of the papillary muscles so often affected, was everywhere free from fibrous or fatty degeneration.

We find then our former estimate of the case fully confirmed by this examination, and can realize that in-

terstitial nephritis, although present, was not the whole disease. The general arterial sclerosis was undoubtedly as important a factor as the not excessive destruction of kidney substance.

ORIGINAL ARTICLES.

DISINFECTANTS.[1]

PRELIMINARY REPORTS OF THE COMMITTEE ON DISINFECTANTS OF THE AMERICAN PUBLIC HEALTH ASSOCIATION.

IX.

THE object of *disinfection* is to prevent the extension of infectious diseases by destroying the specific infectious material which gives rise to them. This is accomplished by the use of *disinfectants*.

There can be no partial disinfection of such material; either its infecting power is destroyed or it is not. In the latter case there is a failure to disinfect. Nor can there be any disinfection in the absence of infectious material.

It has been proved for several kinds of infectious material that its specific infecting power is due to the presence of living microörganisms, known in a general way as "disease germs;" and practical sanitation is now based upon the belief that the infecting agents in all kinds of infectious material are of this nature. Disinfection, therefore, consists essentially in the destruction of disease germs.

Popularly, the term disinfection is used in a much broader sense. Any chemical agent which destroys or masks bad odors, or which arrests putrefactive decomposition, is spoken of as a disinfectant. And in the absence of any infectious disease it is common to speak of disinfecting a foul cesspool, or bad-smelling stable, or privy-vault.

This popular use of the term has led to much misapprehension, and the agents which have been found to destroy bad odors—*deodorizers*—or to arrest putrefactive decomposition—*antiseptics*—have been confidently recommended and extensively used for the destruction of disease germs in the excreta of patients with cholera, typhoid fever, etc.

The injurious consequences which are likely to result from such misapprehension and misuse of the word disinfectant will be appreciated when it is known that:

Recent researches have demonstrated that many of the agents which have been found useful as deodorizers, or as antiseptics, are entirely without value for the destruction of disease germs.

This is true, for example, as regards the sulphate of iron or copperas, a salt which has been extensively used with the idea that it is a valuable disinfectant. As a matter of fact, sulphate of iron in saturated solution does not destroy the vitality of disease germs, or the infecting power of material containing them. This salt is, nevertheless, a very valuable antiseptic, and its low price makes it one of the most available agents for the arrest of putrefactive decomposition in privy vaults, etc.

Antiseptic agents also exercise a restraining influence upon the development of disease germs, and their use during epidemics is to be recommended, when masses of organic material in the vicinity of human habitations cannot be completely destroyed, or removed, or disinfected.

While an antiseptic agent is not necessarily a disinfectant, all disinfectants are antiseptics; for putrefactive decomposition is due to the development of "germs" of the same class as that to which disease germs belong, and the agents which destroy the latter also destroy the bacteria of putrefaction, when brought in contact with them in sufficient quantity, or restrain their development when present in smaller amounts.

A large number of the proprietary "disinfectants," so called, which are in the market, are simply deodorizers or antiseptics, of greater or less value, and are entirely untrustworthy for disinfecting purposes.

Antiseptics are to be used at all times when it is impracticable to remove filth from the vicinity of human habitations, but they are a poor substitute for cleanliness.

During the prevalence of epidemic diseases, such as yellow fever, typhoid fever, and cholera, it is better to use, in privy-vaults, cesspools, etc., those antiseptics which are also disinfectants—*i.e.*, germicides; and when the contents of such receptacles are known to be infected this becomes imperative.

Still more important is the destruction at our seaport quarantine stations of infectious material which had its origin outside of the boundaries of the United states; and the destruction, within our boundaries, of infectious material given off from the persons of those attacked with any infectious disease, whether imported or of indigenous origin.

In the sick-room we have disease germs at an advantage, for we know where to find them as well as how to kill them.

Having this knowledge, not to apply it would be criminal negligence, for our efforts to restrict the extension of infectious diseases must depend largely upon the proper use of disinfectants in the sick-room.

GENERAL DIRECTIONS.

Disinfection of Excreta, etc.—The infectious character of the dejections of patients suffering from cholera and from typhoid fever is well established; and this is true of mild cases and of the earliest stages of these diseases as well as of severe and fatal cases. It is probable that epidemic dysentery, tuberculosis, and perhaps diphtheria, yellow fever, scarlet fever, and typhus fever may also be transmitted by means of the alvine discharges of the sick. It is therefore of the first importance that these should be disinfected. In cholera, diphtheria, yellow fever, and

[1] This report has been prepared by the Chairman of the Committee in compliance with the request of the Sanitary Council of the Mississippi Valley, as expressed in a resolution passed at its recent meeting in New Orleans (March 10th and 11th). A special meeting of the Committee on Disinfectants, was called to consider the report, at which the following members were present, viz.: Drs. Sternberg, Raymond, Smart, and Rohé. Dr. James E. Reeves, President of the American Public Health Association, was also present by invitation of the Committee. After careful consideration and revision the report was adopted.

scarlet fever, all vomited material should also be looked upon as infectious. And in tuberculosis, diphtheria, scarlet fever, and infectious pneumonia, the sputa of the sick should be disinfected or destroyed by fire. It seems advisable also to treat the urine of patients sick with an infectious disease with one of the disinfecting solutions below recommended.

Chloride of lime, or bleaching powder, is, perhaps, entitled to the first place for disinfecting excreta, on account of the rapidity of its action. The following standard solution is recommended:

Standard Solution No. 1.

Dissolve chloride of lime of the best quality[1] *in soft water, in the proportion of four ounces to the gallon.*

Use one pint of this solution for the disinfection of each discharge in cholera, typhoid fever, etc. Mix well and leave in vessel for at least ten minutes before throwing into privy-vault or water-closet. The same directions apply for the disinfection of vomited matters. Infected sputum should be discharged directly into a cup half full of the solution.

Standard Solution No. 2.

Dissolve corrosive sublimate and permanganate of potash in soft water, in the proportion of two drachms of each salt to the gallon.

This is to be used for the same purposes and in the same way as Standard Solution No. 1. It is equally effective, but it is necessary to leave it for a longer time in contact with the material to be disinfected—at least an hour. The only advantage which this solution has over the chloride of lime solution consists in the fact that it is odorless, while the odor of chlorine in the sick-room is considered by some persons objectionable. The cost is about the same.[2] It must be remembered that this solution is highly poisonous. It is proper, also, to call attention to the fact that *it will injure lead pipes if passed through them in considerable quantities.*

Standard Solution No. 3.

To one part of Labarraque's Solution (liquor sodæ chlorinatæ) add five parts of soft water.

This solution is more expensive[3] than the solution of chloride of lime, and has no special advantages for the purposes mentioned. It may, however, be used in the same manner as recommended for Standard Solution No. 1.

The following powder is also recommended for the disinfection of excreta in the sick-room and of privy-vaults, etc.:

Disinfecting and Antiseptic Powder.

One pound of chloride of lime; one ounce of corrosive sublimate; nine pounds of plaster of Paris. Pulverize the corrosive sublimate and mix thoroughly with the plaster of Paris. Then add the chloride of lime and mix well. Pack in paste-board boxes or in wooden casks. Keep dry.

As an antiseptic and deodorizer this powder is to be sprinkled upon the surface of excreta, etc.

To disinfect excreta in the sick-room, cover the entire surface with a thin layer of the powder—one-fourth inch in thickness—and if the material is not liquid pour on sufficient water to cover it.

Disinfection of the Person.—The surface of the body of a sick person, or of his attendants, when soiled with infectious discharges, should be at once cleansed with a suitable disinfecting agent. For this Standard Solution No. 3 may be used.

In diseases like smallpox and scarlet fever, in which the infectious agent is given off from the entire surface of the body, occasional ablutions with Labarraque's Solution, diluted with twenty parts of water, will be more suitable than the stronger solution above recommended.

In all infectious diseases the surface of the body of the dead should be thoroughly washed with one of the standard solutions above recommended, and then enveloped in a sheet saturated with the same.

Disinfection of Clothing.—Boiling for half an hour will destroy the vitality of all known disease germs, and there is no better way of disinfecting clothing or bedding which can be washed than to put it through the ordinary operations of the laundry. No delay should occur, however, between the time of removing soiled clothing from the person or bed of the sick and its immersion in boiling water, or in one of the following solutions; and no article should be permitted to leave the infected room until so treated.

Standard Solution No. 4.

Dissolve corrosive sublimate in water[1] *in the proportion of four ounces to the gallon, and add one drachm of permanganate of potash to each gallon to give color to the solution.*

One fluidounce of this standard solution to the gallon of water will make a suitable solution for the disinfection of clothing. The articles to be disinfected must be thoroughly soaked with the disinfecting solution and left in it for at least two hours, after which they may be wrung out and sent to the wash.

Solutions of corrosive sublimate should not be placed in metal receptacles, for the salt is decomposed and the mercury precipitated by contact with copper, lead, or tin. A wooden tub or earthen crock is a suitable receptacle for such solutions.

Clothing may also be disinfected by immersion for

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[1] Good chloride of lime should contain at least 25 per cent. of available chlorine. (*See* preliminary report of Committee on Disinfectants. The Medical News, Philadelphia, February 7, 1885, page 147.) It may be purchased by the quantity at 5 cents per pound. The cost of the standard solution recommended is therefore less than two cents a gallon. A clear solution may be obtained by filtration or by decantation, but the insoluble sediment does no harm, and this is an unnecessary refinement.

[2] Corrosive sublimate costs about 70 cents a pound, and permanganate of potash 65 cents a pound, by the single pound. This makes the cost of the Standard Solution No. 2 a little more than two cents a gallon.

[3] We assume that the solution used will contain at least 3 per cent. of available chlorine, which would give us 0.5 per cent. in the diluted solution. The cost per gallon of the undiluted solution should not be more than fifty cents by the quantity. This would make our standard solution cost between eight and nine cents a gallon.

[1] Mercuric chloride (corrosive sublimate) is soluble in cold water in the proportion of one part in sixteen. Solution is greatly facilitated by heat.

two hours in a solution made by diluting Standard Solution No 1 with nine parts of water—one gallon in ten. This solution is preferable for general use, especially during the prevalence of epidemics, on account of the possibility of accidents from the poisonous nature of Standard Solution No. 4. When diluted as directed this solution may, however, be used without danger from poisoning through the medium of clothing immersed in it, or by absorption through the hands in washing. A poisonous dose could scarcely be swallowed by mistake, owing to the metallic taste of the solution, and the considerable quantity which would be required to produce a fatal effect—at least half a pint.

Clothing and bedding which cannot be washed, may be disinfected by exposure to dry heat in a properly constructed disinfecting chamber for three or four hours. A temperature of 230° F. should be maintained during this time, and the clothing must be freely exposed—*i. e.*, not folded or arranged in piles or bundles, for the penetrating power of dry heat is very slight.

The limitations with reference to the use of dry heat as a disinfectant are stated in a "Preliminary Report of the Committee on Disinfectants," published in THE MEDICAL NEWS, March 14, 1885.

The temperature above mentioned will not destroy the *spores* of bacilli—*e. g.*, of the anthrax bacillus, but is effective for the destruction of all disease germs which do not form spores; and there is good reason to believe that this list includes smallpox, cholera, yellow fever, diphtheria, erysipelas, puerperal fever, and scarlet fever (?) Moist heat is far more effective, and it is demonstrated that ten minutes exposure to steam, at a temperature of 230° F. will destroy all known disease germs, including the most refractory spores.

In the absence of a suitable disinfecting chamber, it will be necessary to burn infected clothing and bedding, the value of which would be destroyed by immersion in boiling water, or in one of the disinfecting solutions recommended.

Disinfection of the Sick-room.—In the sick-room no disinfectant can take the place of free ventilation and cleanliness. It is an axiom in sanitary science that *it is impracticable to disinfect an occupied apartment;* for the reason that disease germs are not destroyed by the presence in the atmosphere of any known disinfectant in respirable quantity. Bad odors may be neutralized, but this does not constitute disinfection in the sense in which the term is here used. These bad odors are, for the most part, an indication of want of cleanliness, or of proper ventilation; and it is better to turn contaminated air out of the window, or up the chimney, than to attempt to purify it by the use of volatile chemical agents, such as carbolic acid, chlorine, etc., which are all more or less offensive to the sick, and are useless so far as disinfection—properly so-called—is concerned.

When an apartment which has been occupied by a person sick with an infectious disease is vacated, it should be disinfected. But it is hardly worth while to attempt to disinfect the atmosphere of such an apartment, for this will escape through an open window and be replaced by fresh air from without while preparations are being made to disinfect it. Moreover, experience shows that the infecting power of such an atmosphere is quickly lost by dilution, or by the destruction of floating disease germs through contact with oxygen, and that even smallpox and scarlet fever are not transmitted to any great distance through the atmosphere; while cholera, typhoid fever, and yellow fever are rarely, if ever, contracted by contact with the sick, or by respiring the atmosphere of the apartments occupied by them.

The object of disinfection in the sick-room is, mainly, the destruction of infectious material attached to surfaces, or deposited as dust upon window-ledges, in crevices, etc. If the room has been properly cleansed and ventilated while still occupied by the sick person, and especially if it was stripped of carpets and unnecessary furniture at the outset of his attack, the difficulties of disinfection will be greatly reduced.

All surfaces should be thoroughly washed with a solution of corrosive sublimate of the strength of one part in 1000 parts of water, which may be conveniently made by adding four ounces of Standard Solution No. 4 to the gallon, or one pint to four gallons of water. The walls and ceiling, if plastered, should be whitewashed with a lime wash containing the same proportion of corrosive sublimate, or they may be brushed over with the aqueous solution. Especial care must be taken to wash away all dust from window-ledges and other places where it may have settled, and to cleanse thoroughly crevices and out-of-the-way places. After this application of the disinfecting solution, and an interval of twenty-four hours or longer for free ventilation, the floors and woodwork should be well scrubbed with soap and hot water, and this should be followed by a second more prolonged exposure to fresh air, admitted through open doors and windows.

Many sanitary authorities consider it necessary to insist upon fumigation with sulphurous acid gas—produced by combustion of sulphur—for the disinfection of the sick-room. As an additional precaution, this is to be recommended, especially for rooms which have been occupied by patients with smallpox, scarlet fever, diphtheria, typhus fever, and yellow fever. It should precede the washing of surfaces and free ventilation above recommended. But fumigation with sulphurous acid gas alone, as commonly practised, cannot be relied upon for the disinfection of the sick-room and its contents, including bedding, furniture, infected clothing, etc., as is popularly believed. And a misplaced confidence in this mode of disinfection is likely to lead to a neglect of the more important measures which have been recommended. In the absence of moisture the disinfecting power of sulphurous acid gas is very limited, and under no circumstances can it be relied upon for the destruction of spores.[1] But exposure to this agent in sufficient quantity, and for a considerable time, especially in the presence of moisture, is destructive of disease germs, in the absence of spores. It is essential,

[1] See Preliminary Report of Committee on Disinfectants in THE MEDICAL NEWS of March 28, 1885.

however, that the germs to be destroyed shall be very freely exposed to the disinfecting agent, which has but slight penetrating power.

To secure any results of value, it will be necessary to close the apartment to be disinfected as completely as possible by stopping all apertures through which the gas might escape, and to burn not less than three pounds of sulphur for each thousand cubic feet of air-space in the room.[1] To secure complete combustion of the sulphur it should be placed, in powder or in small fragments, in a shallow iron pan, which should be set upon a couple of bricks in a tub partly filled with water, to guard against fire. The sulphur should be thoroughly moistened with alcohol before igniting it.

Disinfection of Privy-vaults, Cesspools, etc.—When the excreta—not previously disinfected—of patients with cholera or typhoid fever, have been thrown into a privy-vault this is infected, and disinfection should be resorted to as soon as the fact is discovered, or whenever there is reasonable suspicion that such is the case. It will be advisable to take the same precautions with reference to privy-vaults into which the excreta of yellow fever patients have been thrown, although we do not definitely know that this is infectious material. Disinfection may be accomplished either with corrosive sublimate, or with chloride of lime. The amount used must be proportioned to the amount of material to be disinfected.

Use one pound of corrosive sublimate for every five hundred pounds—estimated—*of fecal matter contained in the vault, or one pound of chloride of lime to every thirty pounds.*

Standard Solution No. 4, diluted with three parts of water, may be used. It should be applied—the diluted solution—in the proportion of one gallon to every four gallons—estimated—of the contents of the vault.

If chloride of lime is to be used, one gallon of Standard Solution No. 1 will be required for every gallon—estimated—of the material to be disinfected.

All exposed portions of the vault, and the woodwork above it should be thoroughly washed down with the disinfecting solution.

To keep a privy-vault disinfected during the progress of an epidemic, sprinkle chloride of lime freely over the surface of its contents daily. Or, if the odor of chlorine is objectionable, apply daily four or five gallons of Standard Solution No. 2, which should be made up by the barrel, and kept in a convenient location, for this purpose.

Disinfection of Ingesta.—It is well established that cholera and typhoid fever are very frequently, and perhaps usually, transmitted through the medium of infected water or articles of food, and especially milk. Fortunately we have a simple means at hand for disinfecting such infected fluids. This consists in the application of heat. *The boiling temperature maintained for half an hour kills all known disease germs.* So far as the germs of cholera, yellow fever, and diphtheria are concerned, there is good reason to believe that a temperature considerably below the boiling point of water will destroy them. But, in order to keep on the safe side, it is best not to trust anything short of the boiling point (212° F.) when the object in view is to disinfect food or drink which is open to the suspicion of containing the germs of any infectious disease.

During the prevalence of an epidemic of cholera it is well to boil all water for drinking purposes. After boiling, the water may be filtered, if necessary to remove sediment, and then cooled with *pure* ice, if desired.

A sheet of filtering paper, such as druggists use, and a glass or tin funnel, furnish the best means for filtering water on a small scale for drinking purposes. A fresh sheet of paper is to be used each day.

[1] One litre of sulphur dioxide weighs 2.9 grammes. To obtain ten litres of gas it is necessary to burn completely fifteen grammes of "flowers of sulphur" (Vallin).

SOME CLINICAL OBSERVATIONS ON THE THERAPEUTIC USES OF BROMIDE OF NICKEL.

By R. LEAMAN, M.D.,
CHIEF OF MEDICAL CLINIC AT JEFFERSON MEDICAL COLLEGE HOSPITAL, PHILADELPHIA.

As with all else that is new, a certain scepticism has ever prevailed concerning the utility of new drugs. Such conservation is doubtless beneficial, for how can any good come of changing an old drug of known utility for a new one of doubtful worth? Nevertheless, many remedies of great utility receive frequent condemnation at the hands of the profession simply because the proper conditions indicating their use are not known or appreciated.

Some time ago Professor Da Costa introduced the bromide of nickel as a useful remedy in the treatment of epilepsy and kindred diseases, and during the past year or more it has been repeatedly tried in the out-patient department of the Jefferson College Hospital.

During this time it has been found that this salt of nickel is especially useful in a certain class of cases, at the same time its method of administration has been greatly improved by the pharmacist. When first used it was noticed that in some cases great benefit followed its administration, whilst in other cases little relief was experienced from its employ, certainly less than from the combined use of the bromide of sodium and the bromide of potassium. Soon, however, it was remarked that the best results were obtained when the attacks took place regularly and at comparatively long intervals. But, on the other hand, where the attacks are frequent, amounting to several in the twenty-four hours, then better results were obtained from the use of the other bromides. In other words, where the object in view is to keep up a mild impression for a long while, that then the results obtained from the bromide of nickel are most gratifying.

Just here the question will naturally arise, Would not the mild impression of small doses of the other bromides be equally satisfactory?

Now, we must frankly confess that, despite its favorable recommendation by so distinguished an authority as Professor Da Costa, we at first obtained such varying results from its use that our minds were

rather prejudiced against the drug than otherwise. However, difficult as it is to relieve one's mind of a preconceived idea, yet, after frequently employing this remedy in the special class of cases just mentioned, and comparing in the same patient the results which we obtained from this and the other bromides, we have no longer any doubt that this drug is a most valuable addition to the therapeutics of epilepsy.

In the first place, it disorders the digestive tract less than any of the other bromides. Especially is this true when administered in the effervescing form. The bromide of nickel, $NiBr_2$, is formed by combining with the aid of heat eighty parts of bromine with fifty-eight and eight-tenths of pure nickel. As thus formed, it is a dry, slightly granular powder, of a greenish-yellow color, very soluble in water, producing a grass-green solution. The powder is insoluble in both alcohol and ether. The granular preparation of which we speak is made in the same way as the officinal granular citrate of magnesia, namely, by mixing the salt intimately with the bicarbonate of soda and tartaric acid, moistening with alcohol, and passing this moist powder through a sieve and then drying in a warm closet.

The carbonic acid liberated when the powder is put in water, makes it not only more pleasant to the taste, but more acceptable to the stomach, than when administered in any other form. The dose for one adult is from five to ten grains,—each teaspoonful containing five grains of the salt. When first introduced five grains were thought to be a full dose. But, as it was then given in solution, it is probable that the effervescing form does not quite represent the full strength, since although better borne by the stomach, larger doses are required than of the simple solution. In suitable cases we estimate that ten grains of nickel are fully equal in efficiency to half a drachm of the bromide of potassium. Although equal in therapeutic results to this amount of the potash salt, yet at the same time it is much less of a depressant to the nervous system. It is, therefore, especially indicated when a hysterical or hypochondriacal element is prominent in a case. Two marked cases of this kind have recently presented themselves which we deem worthy of special mention.

One was that of a young farmer, twenty-eight years of age, a man of fine physique, but of sluggish intellect; a man who had almost totally abandoned himself to a life of self-introspection, which was of course aggravated by the solitude of his rural surroundings. Moreover, he had fallen a victim to that current of popular literature which addresses powerfully the mind of a susceptible man, and centres his whole attention upon his sexual apparatus—we refer to the "Marriage Guides," so-called. He had read all the works of that character upon which he could lay his hands. He was thoroughly convinced that all of his ailments, which were legion, originated in the early practice of masturbation. To add to his despondency, about six months before presenting himself to us he was seized with an epileptic fit, which lasted for about fifteen minutes. During this time he frothed at the mouth. This was followed by a deep sleep, lasting for nearly an hour, after which he felt exhausted and dull for the remainder of the day.

Since that time he had been having a similar attack about once in three weeks, and these were gradually increasing in frequency. So that from all we could learn his was a case of idiopathic epilepsy. He was put upon five grain doses of the bromide of nickel, but at the end of three weeks had another attack, although much less severe. The dose was then increased to ten grains, and at the end of eleven weeks there had been no sign of another attack. He was much more cheerful and self-satisfied. Unfortunately he insisted that he was entirely cured, and we have not heard of him since. Moreover, we must state that a change of his hygienic conditions had somewhat to do with this result; for, like many epileptics, he was an enormous eater, and allowed himself to pass four or five days without having a movement from the bowels. All of this was, of course, regulated; and, since the mental condition of an individual is much influenced by the condition of his colon, we must, of course, attribute some of this improvement to his altered hygienic conditions.

The other case was that of a lady, thirty years of age, who had been subject to epileptic attacks for twenty-three years subsequent to a spell of scarlet fever. She usually had as many as two or three attacks daily, and this condition was aggravated about the time of the menstrual flow. The longest period during which she had been free from an attack was two weeks. During the seizures she loses consciousness entirely, foams at the mouth, and bites her tongue. This condition is usually ushered in by giddiness, occasionally by the sensation of a puff of air rising from the epigastrium; she has a very poor memory; is highly emotional, begging for relief in the manner almost of an imbecile; tongue is much coated; the urine normal. Having been thus afflicted for many years, and having travelled to a considerable extent, she had tried the numerous remedies of many doctors, both of the quack persuasion and of the regular profession. She was entirely familiar with the action of the bromides, severally and combined. She complained that, although they lessened the number and severity of the attacks, yet their depressant action upon the stomach and nervous system was so disagreeable that she almost preferred the disease to the remedy. Already disgusted with all drugs, when we informed her of our intention to give her a new bromide, it was with the utmost hesitancy that she consented to take the bromide of nickel. However, after some persuasion she consented, and was immediately put upon ten grain doses three times daily.

This was on the twentieth of October, 1884. On the thirtieth day of November following, after having steadily persevered in the use of the remedy, she returned despondent, stating that on the day previous she had a severe attack, the first for nearly six weeks, She would not consent to take the remedy any longer, since it had not entirely cured her. Fortunately for our observations, she continued it long enough to prove that the bromide of nickel was more effective than anything she had previously taken; and that, although her stomach was quickly upset by other bromides, she was able to take this without any inconvenience. This case, of course, proves an excep-

tion to the rule that the best effects are derived from this drug when the attacks are comparatively far apart.

We state these two cases as the types of two general classes of epilepsy in which the bromide of nickel is most beneficial. In these two classes it has been used with marked success in upwards of fifty cases. That the bromide of nickel will relieve headache, especially of the congestive form, was claimed for the drug at its first introduction.

It is a most excellent remedy for wakefulness dependent upon long-continued excitement of the nervous system from any cause. We claim for this drug no specific curative action; we only wish to state our belief that it is a most valuable addition to the therapeutics of epilepsy, especially in that class of cases which we have above set forth, and also a potent remedy in many kindred disorders.

REMOVAL OF LARGE FIBROID TUMORS PER VAGINAM—TWO CASES—RECOVERY OF BOTH.

By R. S. SUTTON, M.D.,
of Pittsburg, Pa.

When a fibro-myoma occupies the cavity of the uterus, or when it is developed beneath its lining membrane, the question of removal, with its dangers and difficulties, is frequently divided between supravaginal hysterectomy and enucleation. But when the tumor is large, occupying not only the distended uterine cavity, but the vagina also, or when the tumor is developed in the body and neck of the uterus and supravaginal hysterectomy cannot be done, enucleation per vaginam is the proper operation.

The cases herein narrated were of the latter class. In both the tumors were large. The patients were greatly exhausted; the operations were difficult. Both recovered.

Case I.—Mrs. L. McF. was sent to me by Dr. James Hasler, of Cochranton, Pa. She was admitted to Terrace Bank Hospital for Women on March 9, 1884. A fibro-myoma occupied, completely filling, the pelvis. The external uterine os could not be reached; it lay behind a point above the symphysis pubis, and above the equator of the growth. The latter was developed in the posterior lip and body of the uterus, and was larger than the head of an ordinary sized child at term. On March 11th she was etherized by the head nurse (Miss Garvin), and placed in the lithotomy position on the table before a window. A second nurse supported one leg; my assistant, Dr. Stone, the other. A Simon's speculum, with a very short, broad blade, was placed in the vagina, and with it the nurse held the perineum down. A second Simon's speculum, with a long, narrow blade, was carefully crowded up between the tumor and the bladder, and held by Dr. Stone. The vagina and presenting enlargement were again carefully washed with five per cent. carbolic water. The parts were perfectly exposed, the rectum was guarded with the posterior, and the bladder and urethra with the anterior speculum.

With Paquelin's cautery I laid open all the tissue covering the tumor exposed to view. The capsule proved to be very thick, but the division of it with the cautery was bloodless. The edge of the capsule was now seized with a pair of long-handled forceps and lifted and steadied until Thomas's spoon saw was pushed well up between the capsule and the tumor. The latter was now seized with a pair of powerful volsellum forceps, with which I dragged the tumor about in aid of the movements with the spoon saw. In a few minutes the tumor was apparently separated from uterine tissue and blood was flowing freely from the vagina.

I now discovered that the incision made with the cautery did not lay open the lip of the uterus all the way to the external os, which I had not yet seen. With a pair of blunt scissors I now succeeded in carrying the incision entirely through the lip to the external os, a distance of only about a half inch. The tumor was now loose in the capsule, and the incision through which it must be extracted was about five inches in length. Whether the cavity of the peritoneum had been opened or not was uncertain, but I had held the saw in the process of enucleation close to the tumor as I worked it along the tumor.

The tumor was now seized with additional pairs of strong volsellum forceps and forcibly pulled out of the vagina, lacerating still more the perineum already lacerated in one of her accouchements.

The delivery of the tumor was followed by a free hemorrhage from the interior of the capsule. The specula were replaced, and the vaginal nozzle of a Davidson's syringe was inserted into the cavity of the capsule, and very hot water was injected until a half gallon was used. The bleeding was diminished, but the flow was still free. The lips of the wound were now held apart with long-handled forceps, and the empty capsule and uterus were pressed down to the ostium vagina, the perineal short-bladed speculum remaining *in situ*. The bleeding points were seized as rapidly as possible with Péan's and Koeberlé's compression forceps. Each pair locked and dropped. Thirty-two pairs were put on their shafts, completely filling the vagina. They were left *in situ*, and the anæsthetic withdrawn. At the end of twenty minutes the forceps were lifted. A little oozing continued. The hot water was again used for four or five minutes, and the interior of the capsule was then dried off and swabbed over with a solution of perchloride of iron in glycerine. The capsule and uterus were then pushed up, the speculum removed, and the patient was put to bed.

The after-treatment consisted of hot vaginal douches (sublimate 1 : 2000) every eight hours, milk punch, beef soup, quinine, and digitalis. She recovered and left the institution four weeks from the date of her arrival. She remains in good health at the present time. At this operation were present: Drs. Huselton, of Allegheny, and Lindley, of Perrysville, both skilful surgeons.

Case II.—On June 23, 1884, I met Dr. Johnston, of Fairview, West Virginia, at the house of Miss S., his patient, with a view of removing per vaginam a fibro-myoma. The patient was a large-boned, stout, unmarried woman, of about thirty-five years of age.

She was pale and thin, her pulse small and rapid. She had been in labor for a month. On examination I found the tumor resting with its lower end on the perineum; the upper end was in the uterus, reaching to a point near the umbilicus. The lower end seemed to fill the vagina; the capsule was sloughing; the perineum was discolored, dark blue in appearance. There had been but little hemorrhage in the whole history of the case, but a discharge of thin serum had been constant.

She was etherized, placed in the lithotomy position, douched with hot water, and a thorough exploration made. The outlet of the vagina was very small. After careful exploration I concluded that the tumor was egg-shaped, the lower end being about the size of a fœtal head; the upper end being nearer the size of an adult head. I had put my hand through the ostium vagina, and thrust my fingers up behind the tumor, but could not distinguish the margin of the dilated cervix. In the attempt I lacerated the perineum, which tore like rotten cloth. Two physicians, friends of Dr. Johnston, whose names I cannot recall, were present; also a young clergyman of the neighborhood. The clergyman gave the anæsthetic; a leg was taken charge of by each of the physicians referred to, and I reserved Dr. Johnston to assist me, which he very ably did.

The mouth of the vagina was well opened up with Simon's speculum and lateral retractors, and with volsellum forceps I seized the tumor, and with heavy scissors began to cut it to pieces, and to remove each piece as cut away. With the scissors and knife I succeeded in an hour in cutting to pieces and removing the entire growth.

While dragging out the last piece, adherent high up in the uterus by the pedicle to the uterine wall I inverted the uterus—it turned inside out. I cast a strong ligature around the pedicle of the tumor, cut it close to the knot, severed the pedicle with the scissors, and the operation was finished. I now replaced the uterus, and carried into its cavity a large rag, well saturated with vinegar, and, seizing the uterus through the abdominal wall with the free hand, I felt it contract on the other hand. The patient was then put to bed.

She recovered under Dr. Johnston's care, and a few months ago I closed the lacerated perineum. She is now in good health; she expresses it, "raised from the dead." While her view of the matter is an exaggerated one, there is no doubt that without operation she must very soon have died.

I am sorry I cannot recall the names of the medical friends of Dr. Johnston, who also contributed valuable assistance.

GALVANISM IN DIPHTHERITIC PARALYSIS.

BY JAMES K. THACHER, M.D.,

PROFESSOR OF PHYSIOLOGY IN YALE COLLEGE, ATTENDING PHYSICIAN AT THE NEW HAVEN HOSPITAL.

The strong tendency of diphtheritic paralysis to recover makes it difficult to distinguish and estimate the effect of modes of treatment. In the case presented below the danger of the fallacy *post ergo propter* is considerably diminished by the making of the conclusions depend on a comparison between the arms.

A. S., æt. 17, in good health till September last, when he had an attack of diphtheria, and for three weeks was attended daily by a regular physician. The diphtheritic process in the throat was followed by inability to talk plainly, diplopia, and weakness and numbness in the extremities. The palatal and ocular paralysis reached a maximum before that of the limbs, and weakness was noticed in the arms earlier than in the legs.

When the patient came into my hands December 18, the paralysis had become almost entirely confined to his limbs. Both his arms and legs were quite weak, and showed partial reaction of degeneration.

There can be no doubt of the diphtheritic nature of the case, nor does there seem reason to question that the paralysis was due to a multiple peripheral neuritis.

The legs were now treated with galvanism and massage, and the usual tonics ordered. The arms were reserved for experiment. The numbers given below indicate the strength of the hands as measured by an ordinary Tiemann's grip dynamometer.

December 18.—Right 31, left 29. Left arm galvanized, strong current, kathode labile, ten minutes daily for ten days. Right arm not treated.

28th.—Right 43, left 46. Right arm galvanized as above for seven days. Left not treated.

January 4.—Right 58, left 56. Left massaged for seven days. No galvanism. No treatment of right.

11th.—Right 69.4, left 64.3. Left galvanized, not massaged for seven days. Right not treated.

14th.—Right 70.3, left 71.7. Right faradized for seven days.

25th.—Right 74.6, left 75.8. The patient then, considering himself well, withdrew from observation.

It will thus be observed that in each of the three periods in which galvanism was used, applied to the weaker arm it reversed the order of strength; and this reversal did not take place with either faradism or massage in the single trials of these modes of treatment.

The gains under galvanism are exhibited as follows:

	Galvanized arm.	Untreated arm.
(1) Ten days to left arm .	17	12
(2) Seven days to right arm .	15	10
(3) Seven days to left arm .	7.4	0.9
Total . . .	39.4	22.9

That is, the galvanized arm made almost double the progress of the other (1 : 1.72).

The gains with faradism and massage were:

	Arm treated.	Arm untreated.
Massage	8.3	11.4
Faradism	4.3	4.1

So that here there appears to be essentially no difference produced by the faradism, while the massage seems to have been the reverse of successful. The conclusion that the massage was injurious can, however, hardly be drawn from a single seven days' trial.

RAPID DILATATION OF THE CERVIX UTERI FOR STERILITY AND DYSMENORRHŒA.

By A. H. GOELET, M.D.,
of New York.

Dilatation of the cervix, although mostly done for the relief of sterility and dysmenorrhœa, has proved most invaluable in the treatment of endometritis or uterine catarrh, as it is termed by some. In fact, we find this condition always associated with contracted cervical canal to a greater or less degree. That is, where there is an abnormally small cervical canal, the normal secretions from the uterine cavity cannot gain free exit, and sooner or later endometritis is the result.

The majority of cases of this disease occurring in women who have not borne children, are produced in this way. After marriage, when the genital organs are called upon to perform all their functions, there is a greater degree of congestion consequent thereon, the secretions are increased, and the disease becomes more apparent and the dysmenorrhœa more intense. In dilating for stenosis there always escapes, after dilation is complete, a plug of thick mucus resembling albumen which would not have been suspected before; and especially is this so where no endometritis is apparent before dilatation. Cases of endometritis which have resisted treatment before, yield readily after free vent is given to the discharge by dilatation and applications can be thoroughly made. Complete dilatation, if maintained, will alone cure slight cases.

Rapid dilatation is a perfectly safe procedure, free from danger if the patient be confined to bed for a few days after, and is effectual and permanent if done in the way described below, and an intrauterine glass stem be used afterwards to prevent recontraction. Although it may be done in many cases without an anæsthetic, the result will be more satisfactory with it. Whether this be due to more thorough relaxation produced by the anæsthetic, or the operator dilates more thoroughly when there is no apprehension of giving pain, I cannot say, but probably the latter. In dilating for stenosis an anæsthetic should always be used.

Much may be accomplished by preparatory treatment if there be much rigidity of the parts or irritation. I use for a few days before, vaginal tampons of absorbent cotton, soaked with glycerine, to which boric acid has been added to saturation. A string being attached to the tampon, it can be removed by the patient in twenty-four hours, and the vagina thoroughly irrigated with hot water.

I use the Palmer dilator and find one size all that is necessary.

The patient is anæsthetized and placed on a table in a good light. A Nott's trivalve or a bivalve speculum is generally used with the patient on her back, or the Sims's speculum may be used with the patient on her side. The cervix is steadied with a tenaculum, and by a slow steady pressure the dilator may be passed through both external and internal os when the direction of the canal has been previously determined by passing the sound. A shoulder on the blades of the dilator prevents its being introduced too far. I have never yet found it necessary to bore the external os with a pair of pointed scissors as recommended by some. When the dilator has been introduced as far as the shoulder, the handles are brought together gradually by the thumb and middle finger, while with the forefinger, the nut which works on the screw is made to follow up the advantage gained, and hold it there when the fingers become tired. Usually the dilatation is carried to the full extent of the instrument, and is not found to be too much. Tearing of the os has never occurred with this instrument in my hands, which is attributed to the way the blades separate—like a pair of scissors and not parallel. After dilatation is complete the screw is loosened and the instrument withdrawn. The thick plug of mucus, already spoken of, is now removed and the cervical canal cleansed by means of a piece of absorbent cotton twisted around an applicator.

If flexion exists, the dilator is again introduced and turned upon its axis, reversing the flexion and the handles are brought together.

The intrauterine stem which is now introduced is a glass rod, two inches long, size of a No. 20 steel sound (French); rounded at one end, very slightly curved, narrowing into a neck near the other or lower end, and terminating in a button-shaped shoulder which limits penetration. This will be found very hard to handle, and is best introduced with a pair of long uterine dressing forceps, the blades of which have been wrapped with cotton, so that the glass button can be grasped firmly without slipping. A tampon of cotton saturated with glycerine and boric acid is placed against the cervix to hold the stem in position and relieve the irritation. During the first twenty-four or forty-eight hours it will be found that the stem is grasped firmly by the cervix, but after this there is some relaxation and it is apt to slip out. This shows that contraction does take place after dilatation, and that the stem should be used to prevent it. In cases in which there is flexon the stem serves to hold the uterus straight or nearly so.

The patient is placed in bed and allowed to recover slowly from the anæsthetic. She very seldom complains of any pain or inconvenience after the operation, and if there is a little soreness it will pass off in a few hours. It will be even difficult sometimes to convince her of the necessity of remaining in bed. Usually the stem is removed every day, cleansed and replaced, but if there be very little discharge from the uterine cavity it may remain in position for two days at a time. After a week it is removed permanently and the patient allowed to get up. And if the weather is favorable, she may go out the following day.

The following cases are given to illustrate the success of the operation:

Case I.—Mrs. C., æt. 22 years. Married two years. Before marriage she suffered very little inconvenience; but after, dysmenorrhœa became troublesome and there was considerable discharge. Operated July 8, 1884, under chloroform. Slight endometritis found. Subsequent menstruations entirely

free from pain. In October she had a miscarriage at two months. No dysmenorrhœa afterwards.

CASE II.—Miss E., æt. 19 years, has suffered with dysmenorrhœa since puberty, and now it has become so intense it is unbearable. Upon examination a very small cervix was found with a pin-hole os which permitted the introduction of the smallest size uterine probe with difficulty and considerable pain. Operated upon her under ether, October 23, 1884. There was no pain with menstruation after, and three months after the sound was passed with ease and without pain.

CASE III.—Mrs. B., æt. 26 years. Married three years. Sterility and dysmenorrhœa since first menstruation, more intense since marriage, which forced her to apply for relief. Operated September 8, 1884, without anæsthetic. With the first menstruation following operation there was a slight pain due to a cold she had contracted. After this time she ceased to have pain. In this case the patient volunteered the information that there was no sensation during intercourse before the operation, but after it was all that could be desired.

CASE IV.—Mrs. R., æt. 25 years. Married fifteen years. Has suffered with dysmenorrhœa since her first period and she has never conceived. She had a severe menorrhagia once, and was treated without examination, and has had pelvic peritonitis. A very irritating discharge which she has had for several years has caused great annoyance. Examination showed endometritis with considerable stenosis. Operated August 26, 1884, without anæsthetic. During the operation she became nauseated, and vomited from irritation of cervix. Menstruation appeared three days after and was free from pain. The stem was removed for a few days. Eight days after the operation when the stem was again introduced, it was found necessary to dilate again, as contraction had taken place.

CASE V.—Mrs. E., æt. 26 years. Married four years. Sent to me by Dr. L. Has suffered with dysmenorrhæa since puberty, worse since marriage, requiring morphia hypodermically. She has remained sterile, and for the past two years has had endometritis, which has been treated. Sponge-tents have been used at different times by other specialists, and rapid dilatation has been performed without success. Operated upon under ether, April 12, 1884. The first menstruation following operation was accompanied with only slight pain at first. After that all dysmenorrhœa ceased and after appropriate treatment the endometritis ceased. Dr. L. wrote me in November that she was pregnant.

CASE VI.—Mrs. J., æt. 22 years. Married three years. Sterility and dysmenorrhœa. Operated June 22, 1883. Permanent relief of the dysmenorrhœa. She became pregnant in December of same year.

CASE VII.—Miss L., æt. 20 years. Intense dysmenorrhœa since puberty. Operated February 27, 1883. No return of pain.

CASE VIII.—Miss R., æt. 18 years. Intense dysmenorrhœa since puberty, worse at times. Operated March 4, 1884; ether. No return of pain.

CASE IX.—Mrs. F., æt. 27 years. Married seven ears. Sterility and dysmenorrhœa, due to stenosis and acute anteflexion. Operated upon March 20, 1884; ether. When last seen, November 25, there had been no painful menstruation since operation, and she was pregnant.

CASE X.—Mrs. A., æt. 24 years. Married five years. Has suffered from painful menstruation always, and has had no children. Stenosis with retroflexion. Operated upon May 17, 1884; ether. Complete relief of dysmenorrhœa followed the operation. She was pregnant and expects to be confined some time this summer.

The above ten cases have been taken at random from my case-book, and will serve to illustrate what we wish to show just as well as if the whole number were given, and much valuable time and space will be saved by limiting the number.

Out of forty cases operated upon, the dysmenorrhœa has always been relieved, except where dependent upon ovarian disease. And in such cases no positive result is expected, and no such promise is made the patient. The operation has been performed in cases in which ovarian enlargement existed to a slight degree without lighting up any trouble, but the practice is not advocated. No unfavorable symptoms have followed any of the operations, except in one case in which a sharp cystitis occurred on the fourth day after, which may have been produced by pressure of the vaginal tampon on the base of the bladder, but the patient had suffered with attacks of it before. It was easily controlled.

Sterility, if dependent wholly upon the stenosis, is overcome by the operation; but if endometritis exist, conception cannot take place until this is cured. But this is easily accomplished after dilatation, unless it be secondary to ovarian disease, which is often the case. Then a cure need not be expected unless the ovarian disease be curable.

243 WEST FIFTY-FOURTH STREET.

MEDICAL PROGRESS.

CALCAREOUS DEGENERATION OF THE HEART.—At a meeting of the Société Medicale des Hôpitaux, held March 13, 1885, M. A. ROBIN reported a case of calcareous degeneration of the heart.

A man, aged 85, vigorous, and having always had excellent health, entered the infirmary complaining of diarrhœa. The heart on examination presented nothing abnormal, the arteries were atheromatous.

He went out cured, but a few days subsequently he was brought back suffering from a right hemiplegia without loss of consciousness. The heart was found to be hypertrophied; its beats dull and irregular. Death soon occurred. Autopsy showed the heart to be overladen with fat, though the man was emaciated. The valves were normal. Upon the interventricular wall from the top to the bottom of the left ventricle a calcareous plate extended, an eighth of an inch in thickness. The coronary arteries were much retracted by the thickening of their walls, but the patient never had presented any of the symptoms of angina pectoris. Microscopic examination revealed hypertrophic sclerotic myocarditis, and a calcareous infiltration of the endocardium to the level of the interventricular wall.

Notwithstanding the indications which Haller and Renoudin consider peculiar to calcareous degeneration, and in spite of the assertion of Laennec, that in this pathological condition heart murmurs can be distinguished at a distance from the patient, recent observations reveal the latest character of this lesion, save, in the present instance, that the sounds of the heart were muffled and remote. There was no symptomatology whatever, which could be explained by the lesions discovered after death.

The case is interesting, as showing that extensive anatomical lesions, if they do not implicate the valves, may exist in the heart without interfering with their action or preventing contraction of the heart muscle.—*L' Union Médicale*, March 17, 1885.

Occlusion of the Trachea by a Caseous and Relaxed Bronchial Gland.—Prof. Petersen-Kiel, in the *Deutsche med. Wochenschr.*, of March 5th, publishes an interesting case of plugging of the trachea by a caseous bronchial gland. As but few cases are recorded in which the entire lumen of the trachea has been closed by a suppurating gland and respiration rendered impossible, the history is of special interest.

The child, aged six years, had a history of hereditary tuberculosis, but externally showed no indication of scrophulosis, and had recovered from a severe attack of measles, and subsequently from an attack of German measles complicated with bronchitis. Since her last illness, however, her health was not so good, and she was subject to frequent attacks of asthma, which progressively became more severe. At last, she was brought to the hospital, and the dyspnœa was so severe that death was imminent, and tracheotomy was hurriedly decided upon, and performed. As a result of the operation, the breathing became but little easier, and it was evident, therefore, that the obstruction was below the incision.

In order to determine the exact condition, Prof. Petersen-Kiel then introduced an elastic bougie into the trachea, which met with no obstruction until it reached the bifurcation. Upon withdrawing the bougie, crumbling masses of caseous matter were found adherent to it, whereby it was rendered clear that the impediment was due to a caseous gland. By means of a Nélaton's catheter, the end of which was cut off, a collection of cheesy matter, more or less calcified, was removed.

The breathing now became freer. No canula was introduced into the trachea, but the edges of the wound kept open by silk stitches. The child soon fell asleep. During the night following the operation, more caseous matter was evacuated in efforts of coughing. The patient recovered without accident, and the wound made by operation healed in twenty-three days. No abnormal condition existed in the lungs, and the portions of the glands evacuated contained no tubercle bacilli.

Fracture of the Urethra.—Professor V. Dittel, in the *Wien. Med. Blätter*, 1885, No. 2, reports the occurrence of this rare accident during the preceding year. The patient, a man aged thirty years, came to the clinic, relating that he four days previously had struck his penis, during erection, against the symphysis pubis of his wife. Severe pain was at once felt throughout the entire organ and on attempting to urinate, burning was experienced at a localized spot in the urethra.

The following day the entire penis was much swollen and urination very painful. The swelling persisted in spite of the application of Goulard's extract, and the man came to the hospital for treatment.

Examination showing normal capacity of the urethra. Retention of urine had persisted for thirty hours and the bladder was much distended. The penis was very much swollen. In the perineum corresponding to the bulbar portion of the urethra, on pressure a very sensitive spot was found. A Nélaton catheter, at this situation, entered a small opening and was only introduced into the bladder after manipulation. Notwithstanding an incision was made, the day following, urinary infiltration became more considerable, and on the fifth day a scrotal incision along the entire raphé was necessary and the bulbar portion of the urethra was found to be completely torn through. The ends were separated about one-fifth of an inch and were perfectly smooth. The edges of the wound were united by suture, but did not come into exact apposition. The urethral and scrotal wounds healed under iodoform dressings. Some time subsequently a secondary suture was introduced into the urethra. A small fistulous opening persisted however, which, while it diminished in size, failed to close entirely. In this condition the man was discharged.—*Centralbl. für die Gesammte Therapie*, March, 1885.

Treatment of Trichinosis.—Dr. Gottlieb Merkel reports a case of a man who had eaten some raw sausage. After eating it, he received a dispatch stating that as several persons in the house of the butcher from whom the sausage was bought were sick, it was probable the meat contained trichinæ. He had as yet felt no ill-effects from eating the meat, but came wishing to be certain whether it did or did not contain the parasites. Examination showed them to be present, and the patient at once entered a hospital. There had been no movement of the bowels since the ingestion of the sausage. Accordingly doses of the infus. sennæ comp., were administered in rapid succession to an aggregate of nearly ten ounces. This was followed first by solid, and then by thin and watery evacuations. In the latter several non-encapsulated trichinæ and fragments of the same were recognized. They seemed of more than ordinary size, though no peculiar characteristics were recognizable. The following day, along with a restricted diet, the patient was directed to take a tablespoonful of pure glycerine every hour. Fifteen tablespoonfuls were taken without any unpleasant symptoms, save a feeling of thirst and dryness in the mouth and fauces (which was relieved by draughts of seltzer water). There was no hæmoglobinuria, and only thin watery stools resulted. On the thirteenth day, the patient left the hospital. He reported subsequently that he remained perfectly well, while the other persons who had eaten of the same sausage had been seriously ill. The case is interesting as showing that prompt treatment of those eating infected meat may result happily, and that glycerine may be prescribed safely in large doses, and merits further trial as a remedy, notwithstanding the adverse opinion hitherto held as to its efficacy.—*Deutsches Archiv für klin. Medicin*, February, 1885.

THE EFFECT OF PAPAYOTIN IN DIPHTHERIA, CROUP, AND CROUPOUS MEMBRANE.—PROF. M. J. ROSSBACH, in the *Deutsches Archiv für klin. Medicin*, reiterates the views by him expressed four years ago concerning the action of papayotin in diphtheria, croup, and croupous membrane. He says: Papayotin is, indeed, as I said in my former publication, no specific against diphtheria and croup. It can not consequently cure all cases of diphtheria, especially those which have persisted for a long time, and in which the heart has grown weak, but it is the best means of dissolving the croupous and diphtheritic membranes which we at the present time possess, and its application opportunely made frequently renders tracheotomy superfluous, reduces the mortality incident to these diseases, and by removing the membrane, renders the danger of new infection less, and has a salutary effect upon the attending fever. Professor Rossbach insists that if these results are not obtained, an inferior preparation of papayotin has been used.

THERAPEUTIC USE OF TERPINE.—R. LEPINE, in the *Revue de Médecine*, of February, 1885, calls attention to the use of terpine as a therapeutic agent. Chemically it is the hydrate of turpentine. Like turpentine, it has direct action upon mucous membranes, the kidneys, and upon the nervous system.

Lepine holds the opinion that its use is preferable to that of the oil of turpentine, and considers it *par excellence* a true diuretic, having special action upon the renal epithelium.

Its action upon the bronchial mucous membrane varies according to the dose. The administration of the drug is very simple. Crystals of terpine are soluble in alcohol. In bronchitis it may be administered in alcoholic solution with the addition of a soluble syrup, and with white wine if a special diuretic effect is desired.

When larger doses are given in nervous subjects whose kidneys are normal, an astringent should be added to prevent diarrhœa. For this purpose the syrup of catechu is well adapted. Lepine has administered twenty-three grains daily for several days in succession without bad effect. If it causes vomiting, it should be given in enemata.

SUBCUTANEOUS BLOOD INJECTION.—PROFESSOR V. ZIEMSSEN, in the *Deutsches Archiv für klin. Med.*, at the conclusion of an interesting paper on the subcutaneous injection of blood, says that "the number of corpuscles in the blood of persons receiving the injection is increased. I am thoroughly convinced the simple procedure is practicable to every physician, so soon as he finds a person willing to supply the blood, which, in times of necessity or danger, is never difficult. The injection, moreover, is not in the least dangerous in its effects to the patient. In a few instances only—in phthisical patients—was there any resultant pain. This lasted only one or two days, and was accompanied by no other unfavorable symptoms. Cases of severe anæmia and chlorosis,—of anæmia after post-partum hemorrhage, due to severe wounds, and epistaxis, and intestinal hemorrhage (I lately had the opportunity to practise subcutaneous blood injection after enormous hemorrhage in typhoid fever), in leukæmia and pseudo-leukæmia, progressive pernicious anæmia, and in poisoning by noxious gases, give in practice, inducement to attempt the restoration of the blood without resorting to transfusion. Accordingly, it happens that transfusion is only tried at the last moment, consequently is seldom or never of any benefit.

Upon repeated blood injection, in many chronic blood diseases, I can lay especial emphasis. Transfusion is a procedure much more advised than practised, and has never gained any considerable significance among the resources of practical medicine. Possibly, owing to its simplicity and freedom from danger, the method of blood renewal by subcutaneous injection will attain a greater popularity.

THE ETIOLOGY AND PROPHYLAXIS OF RACHITIS.—DR. J. COMBY, in a paper based upon extended clinical observation, reaches the following conclusions as to the etiology and prophylaxis of rachitis:

Etiology.—1st. Vicious alimentation of the new-born is the extensive cause of rachitis.

2. By vicious alimentation is meant all aliment other than mother's milk given to the child before the age of one year.

3. Vicious alimentation includes also the milk of the mother when given at improper intervals—when too frequent, or when the milk is poor in quality.

4. The most certain means of producing rachitis is by feeding the child with pap, porridge, or other food, except milk.

5. Artificial nourishment from a bottle with a long tube is a very frequent cause of rachitis. The use of a bottle without a tube, or simply of a glass, or a cup, is less dangerous.

6. Merely nursing, in order to avoid the troubles of artificial feeding, not infrequently produces rachitis.

7. Premature weaning is an infrequent cause of rachitis.

Prophylaxis.—1. Natural nursing is the most certain means of preventing rachitis.

2. Suckling, to have this effect, should be well-regulated (six or seven times in twenty-four hours), exclusive and prolonged. Under these conditions, if the milk is of good quality, rachitis is seldom observed.

3. In case necessity compels mixed-nursing the bottle should be avoided, and the infant should receive the milk directly from a glass or cup, and at intervals of at least three hours.

4. If artificial nursing alone is possible, the milk should always be of good quality, pure, or almost pure, warm, but not boiled, and always given without the bottle.

5. The infant should receive six or seven times a day from three to four ounces of milk, according to its age or development.

6. Under no pretext should there be given to a child naturally suckled mixed or artificial diet, or any food except milk, before it has attained the age of one year.

7. Weaning should not be attempted previous to this age, and alimentation immediately succeeding should be carefully selected.

By following these rules, which are applicable to the great number of cases, the conditions under which rachitis, or at least its more serious manifestation may be avoided, are best secured.—*Archives Générales de Médecine*, March, 1885.

Treatment of Scabies.—Grigorjew, in the *Sborn Kavkask. med. Obcht.*, No. 38, recommends the following treatment of scabies:

Iodoform	℥j.
Cerat simp.	℥iss.
Ol. oliv.	q. s.
Ft. Ung.	

The treatment comprises two periods. In the first, the patient is plunged into a hot bath, and rubbed for half an hour with black soap. The above ointment is then applied. Two baths and two inunctions are necessary to destroy the parasite. The second period is devoted to the consecutive treatment of the disease, this is limited to the application of the ointment once or twice a day to the painful portions of the skin. This treatment is continued five or six days.

According to Grigorjew, the advantages of this method of treatment are the following:

1. The rapid destruction of the parasites and their eggs.

2. Diminished sensitiveness of the skin, and, therefore, the prevention of itching so troublesome in the disease.

3. Absence of irritation of the skin.

4. Speedy cure of the eczema consequent upon the disease.—*L'Abeille Médicale*, March 23, 1885.

Antiseptic Properties of Citric Acid.—The experiments of Schaltz, detailed in the *Journ. d'hyg. e Farmacista italiano*, show that citric acid possesses very powerful antiseptic qualities. Pieces of meat placed in a five per cent. solution of the acid, after five days were removed in a perfect state of preservation. Fresh meat put in a one per cent. solution was disorganized without emitting any fetid odor. Schaltz, pursuing his investigations still further, found that a solution of the acid of 1 to 1000 exercises prompt germicide effect upon vegetable organisms. The salts of citric acid, however, seem not to possess the same antiseptic properties. Thus, meat put in a five per cent. solution of citrate of soda, putrefied as rapidly as in pure water.—*Gazzetta Medica di Torina*, March 5, 1885.

Bacteria Two Hundred Years Ago.—The Amsterdam *Allgemeen Handelsblad* publishes a communication from Professor E. Cohn, of the University of Breslau, who recapitulates the substance of a correspondence of the celebrated naturalist Leeuwenhock with Francis Aston, of London, a member of the Royal Society. Leeuwenhock, writing from Delft, in 1683, reports that among the *débris* of food remaining between his teeth he had discovered, with the aid of the microscope, living organisms moving with great activity. He distinguishes various kinds among them, which he describes so precisely that they would be easily recognizable. One, which occurs least frequently, resembles a rod, the bacilus; others, twisting in curves, are bacteria; a third kind, creeping in snake fashion, is the vibrio ugla; another kind, of extreme minuteness, resembles a swarm of flies rolled up in a ball, and is evidently the micrococcus. Its movements cannot be traced with certainty. He says that this species seems to be made up of parallel threads, varying in length, and remaining immovable, while other specks move in and out through the web. Leeuwenhock marvels that these things could live in his mouth, notwithstanding his systematic habit of cleansing it. He instituted observations which showed that they were also to be found in the mouths of other persons. Some years later he could not discover any traces of those minute organisms, and he was led to attribute their disappearance to the use of hot coffee. But shortly afterwards he rediscovered them as lively as ever. In September, 1692, he sent some sketches of them to the Royal Society. Professor Cohn observes that it would seem from this correspondence that the knowledge concerning those minute entities made no advance for nearly two centuries, and he remarks on the wonderful skill with which Leeuwenhock used the imperfect instruments of his time.—*London Medical Record*, March 16, 1885.

Gastrotomy and Œsophagostomy for the Removal of Foreign Bodies.—Prof. Billroth, in the *Allgemeine Wiener med. Zeitung*, of February 24, 1885, reports two cases in which œsophagostomy and gastrotomy were severally performed for the removal of a foreign body. In each case a set of artificial teeth was swallowed, and necessitated operation. The history of the case in which gastrotomy was performed is as follows.

The patient—a girl nineteen years of age—while asleep swallowed her artificial teeth. All efforts to extract them were fruitless and they finally passed into the stomach. Gastrotomy was performed and the whole hand was introduced into the stomach, but the foreign body was not discovered. Prof. Billroth accordingly enlarged the incision in the abdominal wall and searched the entire abdominal cavity for the teeth, but again failed to discover them. Search was now made in that portion of the stomach posterior to the gastro-splenic ligament, and adjoining the vertebral column.

This part of the stomach, owing to its position and attachments, cannot be withdrawn from the abdominal cavity from such an incision as had been made, and therefore had escaped examination.

Prof. Billroth now renewed the search with both hands and the foreign body was discovered and extracted.

The patient recovered with no bad symptoms.

Bullet-wound of the Liver; Extraction; Recovery.—Dr. W. F. Smartt reports a case of bullet-wound involving the right lobe of the liver, in which the ball was extracted and the patient recovered. The weapon from which the shot was received was a revolver, carrying a bullet weighing eighty grains. The shot was received at a distance of about three yards.

When first seen, at 6.25 A. M., the patient was in a state of extreme collapse, and his shirt was saturated with blood. A wound was found over the sixth rib of the right side, about one inch from the sternum. A probe passed for a distance of about one inch and a half, in a downward and outward direction, to the intercostal space between the sixth and seventh ribs. Pressure over the epigastrium gave rise to considerable pain, more especially at a point opposite the junction of the cartilages of the seventh and eighth ribs. It was, therefore, concluded that the bullet must have penetrated the abdomen.

Having administered fifty drops of laudanum in an ounce of brandy, Mr. Smartt operated, without an anæsthetic. The patient was placed on his left side, the skin was drawn well down over the edge of the ribs, and an exploratory incision, two and a half inches in length, was made through the skin and subcutaneous cellular tissue, over the edge of the cartilage of the eighth rib. When the finger was used as a probe through this opening, the circumscribed pain above mentioned was much more severely felt. Mr. Smartt cut down through the abdominal wall, and was then able to feel a slight elevation on the surface of the liver. On cutting to about the depth of half an inch into its substance, the knife struck the bullet, which was easily extracted with a small pair of artery-forceps. The wound was then well swabbed out with a 1 in 20 solution of carbolic acid, and its edges were brought together with fine carbolized silk ligatures. Dry iodoform, with a pad of marine lint, was used as a dressing; and a broad bandage was firmly placed round the abdomen.

A pill containing one and a half grains of opium, and half a grain of calomel, was ordered to be given every hour for three doses.

At 2 P. M. the patient was in a state of utter collapse. Enemata of brandy and beef essence, in arrow-root starch, were ordered to be given every hour.

A 4 P. M. he had rallied somewhat. He had not passed urine since 4 A. M., and eighteen ounces of high-colored, but otherwise healthy, urine were drawn off.

With the exception of slight pain and tympanites, no unfavorable symptoms were manifested. In two days the urine was passing without difficulty, and the temperature at no time rose above 100° F. Eighteen days from the reception of the injury the patient was discharged, able to attend to his usual work.—*British Medical Journal*, February 21, 1885.

Germicide Treatment of Lupus by Mercurials.—Dr. Ch. Éloy reports a case of lupus in which the patient refusing treatment by the ordinary method, resort was made to mercurial treatment.

The lesions of the disease in the case under consideration were superficial and easy of access, and therefore epidermic applications only were made. A plaster analogous to that suggested by Unna was ordered, of which the following is the formula:

℞.—Hydrarg. chlor. corros. . . gr. 15
Potass. sulpho-ichthyolatis . . ʒiiss.—M.

The border of the plaster extended beyond the marginal zone of the ulceration about one-half inch, and it was directed to be renewed every twenty-four hours until suppuration was well established—and at each renewal the diseased surface was washed with a solution of corrosive sublimate of 1 to 300. Within twenty-four hours there was evident an erythematous swelling about the borders of the diseased tissue the whole tumor had assumed a dark and escharotic appearance, and the patient complained of a very severe smarting sensation. A carbolized poultice was now applied, with the result that the eschar sloughed and left a bare suppurating surface.

The following days—morning and evening—the ulcerating surface was covered with compresses of gauze soaked in corrosive solution of the strength of 1 to 1000, overlaid with wadding and held in position by bandages. The swelling which followed the application of the ointment soon disappeared and a slight desquamation of the epiderm succeeded. Moderate suppuration continued, gradually decreasing however, and in eighteen days the entire ulcer cicatrized. As an adjuvant to the local treatment, Fowler's solution was prescribed internally as recommended by Doutrelepont.

Under the mercurial treatment there were no symptoms of mercurial poisoning, no tendency even to salivation being noticed. Slight pain and congestion of the parts adjoining the diseased surface were the only ill-effects observed during the application of the ointment. Examination of the cicatrix showed it to be healthy, with no signs of a return of the disease. The general condition of the patient is much improved, and she still continues the use of arsenic tonics and cod-liver oil. At the end of nine months there has been no return of the disease, and the method of treatment deserves further attention.

The method of treatment by cauterization requires apparatus and skill on the part of the operator, while the method by scarification is still more inconvenient and chemical cauterization, according to Unna, is a last resort and not a method of treatment properly so-called. If therefore more extended trial confirm the result here attained and show the use of the remedy to be free from danger, the germicide treatment of lupus will put into the hands of the physician, not a specialist, a powerful and at the same time a convenient means of curing a disease hitherto most rebellious to treatment.—*L'Union Medicale*, March 24, 1885.

The Effect of Antipyrin.—Dr. Götze, in the *Berliner klin. Wochenschr*, of March 9, 1885, says, apropos of his experience with antipyrin, that generally it may be used in febrile diseases, such as typhus, pneumonia, exudative pleuritis, phthisis, diphtheria, and facial erysipelas with good results. In a few instances only does it produce, along with the lowering of the temperature, such excessive sweating as to render its use inconvenient. Vomiting also is sometimes caused by its administration, when other remedies, such as naphthalin and chinolin, have been well borne. In some instances it is entirely inoperative, the temperature having even been observed to rise during its administration. On the other hand, it sometimes produces such a rapid decline of temperature that alarming symptoms of collapse are observed, such as cyanosi; feet, ears, and nose cold; pulse small, and with difficulty felt at the wrist.

The weakness of the heart observed, Dr. Götze ascribes to the reduction of temperature, and not to a direct effect of the drug upon that organ.

The exanthem, which appears as a result of the administration of the drug, the writer has observed, in all in five cases, in all of which the disease was typhus fever, and in which, with one exception, the drug was given in oft-repeated doses of seventy-five grains. Excessive itching in one case accompanied the eruption.

Dr. Götze remarks, in conclusion, that in no case has he observed the course of any disease shortened by the use of antipyrin, and that in severe general infection, not only the fever, but the remaining symptoms fail to be influenced by the drug.

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THE CORROSIVE SUBLIMATE TREATMENT OF WOUNDS.

We have on more than one occasion directed attention, in the columns of The Medical News, to the advantages and risks of corrosive sublimate as a germicide in obstetrical and surgical practice, and we have not hesitated to express the opinion that, when judiciously employed, it constitutes the surest, safest, and most manageable of all antiseptic agents. In obstetric practice, especially, its use by injection has been followed by salivation, vomiting, tenesmus, diarrhœa, erythema, and other signs indicating its toxic action in not a few examples, while acute poisoning, ending in death, has been observed by Schroeder, Stadfeldt, Winter, and Vöhtz. In these cases the solutions varied in strength from 1 to 1500 to 1 to 750, and as toxic symptoms and sudden collapse have been observed in similar cases after the injection of solutions of carbolic acid, we may infer that the puerperal genital tract affords a more favorable condition for the quick and dangerous absorption of these agents than any other cavity of the body or any surgical wound.

The bad effects witnessed by obstetricians have not, as a rule, been seen by surgeons after the use of sublimate, and its safety and efficacy are fully demonstrated by the thirty months' experience of Schede, of Hamburg, whose results are published in *Volkmann' Sammlung Klinische Vorträge*, No. 251, 1885. Thus, of 1286 accidents and surgical wounds, 64, or 5 per cent., were fatal, of which only 1 was due to the toxic effects of the remedy. Of 1222 recoveries, union by the first intention was met with in 935, and by the second intention in 278, the parts having failed to unite in 9. Of the entire number, 91 were major amputations, inclusive of 6 at the hip-joint; 117 were resections of the larger joints; 24 were resections of the continuity of the bones; 81 were osteotomies; 16 were cuneiform tarsotomies; 17 were complicated fractures of the skull; 74 were complicated fractures of the long bones; 69 were examples of irrigation of the joints for dropsy, suppuration, and effusion of blood; 13 were cases of drainage of joints; and 84 were herniotomies and operations for the radical cure of hernia. There were, also, 25 ovariotomies, 8 vaginal hysterectomies, 3 nephrectomies, 8 resections of the intestine, 52 amputations of the breast, 162 extirpations of lymphatic tumors and glands, and 149 excisions of other neoplasms.

These results, and we believe them to be the best attained by any surgeon, were brought about by the use of a 1 to 1000 solution for the hands of the operator, the skin of the patient, the sponges, and the drainage-tubes, of a 1 to 5000 solution for irrigation of the wound, and an outer dressing of moss wrung out of a 1 to 500 solution and enclosed in gauze wrung out of a 1 to 200 solution of glycerine and water. Although the glycerine doubtless mitigated the action of the sublimate in the gauze applied over the wound, we believe that the strength used was accountable for the not infrequent excoriation and pustules seen at the first change of the dressing. In four cases an eruption, precisely similar to that of scarlatina, was met with, which was attended with a severe burning pain, and exhibited a tendency to diffuse itself over the entire body. In only one instance, the case being that of an anæmic female in whom supravaginal hysterectomy was practised, was death due to the agent. The single death out of 1286 cases cannot, however, be used as an argument against the use of the corrosive chloride of mercury, when we consider the number of lives that must have been sacrificed had it not been used.

In connection with the experience of Schede, we trust that the surgeons of the New York Hospital may be induced to publish an account of their mode of employing corrosive sublimate, since Dr. Peabody, Pathologist to the Charity, states, in *The Medical Record* for March 14, that the records of that institution show eleven cases of poisoning, with seven deaths, during the past eighteen months. The case of opening a suprahepatic cyst may, we think, very properly be excluded, as the patient suffered from nausea, headache, and partial suppression of urine before the use of the bichloride, and the sac was irrigated with a 1 to 5000 solution. Of the remaining six, one was a compound fracture of the bones of the leg, with amputation four days after the treatment was begun; three were abscess cavities; one was an amputation of the breast with removal of the axillary contents, and one

was a laparotomy for uterine myoma. In the first case a 1 to 1000 solution was employed; in the remainder a 1 to 2000 solution was used. If the irrigation was resorted to continuously during the operation, we do not hesitate to say that the solutions were too strong, since the continuous washing of the wound is not safe with a solution stronger than 1 to 5000. In the vast majority of operations, indeed, we see no necessity for continuous irrigation with even a weak solution, as a careful washing with a 1 to 1000 solution at the completion of the operation answers every purpose.

REMOVAL OF THE CANCEROUS UTERUS.

THE question of the removal of the cancerous uterus seems very well determined so far as method is concerned, since statistics prove that vaginal extirpation is much less fatal than extirpation by abdominal section. But still the question arises,. Is any mode of removal proper?

This subject was recently discussed before the London Obstetrical Society, in a paper by DR. W. A. DUNCAN, containing the report of two cases in which the operation was done. One of the patients had an epithelioma involving only the anterior lip of the womb. The operation—vaginal removal of the uterus—was done in January, and the patient died in November from reproduction of the cancer immediately above the vaginal vault. This was not a case calling for so dangerous an operation, when the simple removal of the vaginal neck would have taken away all the diseased structure. The second patient died twelve hours after the operation.

In the discussion which the reading of the paper elicited, Dr. John Williams stated that he had done the operation four times, and the only patient who recovered died a month after from fecal fistula. Mr. Knowsley Thornton declared his preference in cancer of the cervix for amputation followed by the application of the chloride of zinc. Mr. Doran in support of the position that there were anatomical reasons against the extirpation of the cancerous uterus, stated that Mierzjeewsky and Lebee had shown that in the connective tissue between the body of the uterus and the peritoneum there is a dense network of lymphatics, whilst two wider lymphatic plexuses form a collar round the uterine and vaginal portions of the cervix. The lowest of these communicates freely with the vaginal lymphatics. All these networks form and empty themselves into three large trunks running to the obturator gland, passing along the lower border of the broad ligament. Early enlargement of this gland is observed in cancer of the cervix, and the extension of the disease readily follows. He asserted that it was, therefore, impossible to remove all the affected lymphatics.

Sir Spencer Wells hoped the operation would not be condemned, and thought that there was still much to learn in the details of vaginal hysterectomy; and improvement, both in early diagnosis and in early operation, may give a much lower mortality, retarded return, or even complete recovery. Dr. Edis regarded hysterectomy for cancer justifiable by a mortality of only 28.6, which was no greater than that of ovariotomy in the early days.

A very valuable contribution to this subject may be found in a late number of the *Zeitschrift für Geburtshülfe und Gynäkologie*, by HOFMEIER. It embraces a period of ten years, and includes 812 cases. Comparing these figures with the numbers of all female patients with disease of the genital organs found respectively in private and in hospital practice, it is shown that cancer is much more frequent in the working class. It is also shown that since twenty-one per cent. of those affected were nulliparæ, the importance given by some to tears of the neck of the womb in childbirth in the etiology of the disease is exaggerated, if not doubtful.

In nearly one-half of the cases the part of the uterus first affected was not known, but in the others it was found that this was most frequently the vaginal portion of the neck, the neck next, while in only 3.4 per cent. was the disease primarily in the body of the womb. The average ages of these three classes were forty-two, forty-seven, and fifty-two and a half years. In 160 cases, or 19 per cent., the radical cure was attempted. When the disease affected the vaginal portion of the cervix, supravaginal amputation was done through the vagina; in cancer of the body of the cervix, extirpation of the uterus, at first by Freund's, later by Czerny's method was performed; while in cancer of the body, abdominal supravaginal amputation was selected. 19 per cent. of the patients died in consequence of the operation, the mortality being, for example, as high as 62 per cent. in Freund's method, while vaginal extirpations gave only 26 per cent. of deaths. It may be stated, in this connection, that Staude, of Hamburg, according to the *Centralblatt für Gynäkologie*, has had sixteen vaginal extirpations of the uterus without a single death.

Hofmeier's statistics show that after two years 80 per cent. of those treated by supravaginal abdominal amputation remained well, 33 per cent. each after Freund's operation and after vaginal extirpation, 32 per cent. after supravaginal and vaginal amputation, and 42 per cent. after amputation by the actual cautery. After four and five years there were respectively eight and three per cent. who remained free from return of the disease.

The subject has recently been discussed by the Paris Academy of Surgery, according to the *Journal d'Accouchements* for February, in connection with a report of two cases by Terrier in which he had per-

formed vaginal hysterectomy, one of the patients dying, the other recovering. Desprès took the ground that the operation was impracticable, and that survival proved the disease was not cancer. Berger stated that even in Germany there was a current of opposition to the operation, the return of the disease being so frequent that the chances of success did not balance the dangers of the operation. He called attention to a case recently operated upon by Boeckel in which a wound of the ureter required nephrectomy, and a return of the disease occurred in three months. Polaillon asserted that cancer of the neck rarely involved the body of the womb, and referred to two cases in which the diagnosis was made by Cornil, one patient surviving two, the other five years. Of course, as observed by Terrier, when an error in diagnosis, or the impracticability of the operation was asserted by Desprès, discussion was at an end.

In the *Gazette Médicale de Paris* of February 14th and 21st, Sébileau gives a much more favorable view of the subject. He holds that the operation should be performed, because, if it be not, certain death, ordinarily very rapid from the progress of the disease, very severe suffering, and disgusting infirmity, making life utterly miserable, are sure to ensue. After the operation, in some cases there is a long survival, in some cases the radical cure results, and if the disease returns, lessening of pain and of accidents ensues. In each case physical comfort and moral calm for some months are obtained. On the other hand, the reasons against the operation are its inutility, the disease often returning, and its dangers and difficulties. As stated by Sébileau, these questions must be determined by statistics; so far as the mortality of the operation is concerned, those of Demons and Doche show that it is only 28 per cent.

He observes that the question of colpohysterectomy, reserved for cases in which amputation of the neck was not possible, has been settled in the affirmative in Germany and Italy, and suggests that this will probably soon be the case in France.

We have thus presented the most recent views—British, German, and French—upon this question. We need only add, using the language of Sir Spencer Wells, that the operation should not be condemned. The weight of testimony so far is in its favor, but it must be remembered that the extirpation of the uterus is not to be done when the disease is limited to the intravaginal neck, for then amputation is the proper operation. Moreover, as stated by Hegar and Kaltenbach, the uterus must be quite mobile, bimanual examination should prove that there is no infiltration in the vagina, the broad and the utero-sacral ligaments, and there should not be in the pelvic connective tissue any bead-like nodosities.

IDENTITY OF MICROCOCCI IN DIFFERENT DISEASES.

It must be a relief to those who have been confused, if not confounded, by the many diseases alleged to be dependent upon different microscopic organisms, to learn that the same micrococcus has been found in different diseases; thus Aufrecht, of Magdeburg, according to the *Révue Medico-Chirurgicale des Maladies des Femmes* for January, stated at the last meeting of the German Society of Naturalists and Physicians, that in croup, diphtheria, and pneumonia, the micrococcus was identical. Further, in a case of diphtheritic endometritis he found the same micrococci as in pneumonia. In two patients who had pneumonia, one in the sixth, the other in the eighth month of pregnancy, one dying two days after miscarriage, the other three days after premature labor, there was found in each, at the placental site, a diphtheritic endometritis, and the same micrococci were observed in the first case. Experiments were made upon pregnant rabbits by injecting a solution made from a portion of the triturated pneumonic lung; the animals miscarried and died, and the pus found in the pericardium, peritoneum, and at the placental site, contained micrococci similar to those found in pneumonia. The same results were obtained when pneumonic sputa were used, instead of the lung tissue, thus proving that the cause did not arise from post-mortem changes. The liquid obtained from trituration of a fragment of the liver of a rabbit destroyed as stated, was injected into another pregnant rabbit, and with the same effect. On the other hand, when solutions containing the bacteria of putrefaction were injected, only a local abscess resulted.

If the identity of the micrococcus of pneumonia, of diphtheria, and of puerperal fever be admitted, it is possible, as many have held, that puerperal infection may occur through the respiratory organs. Certainly this hypothesis might explain the occurrence of some of the cases of so-called autogenetic puerperal septicæmia. As held by Aufrecht, this much is plain, that lying-in women should be separated from patients suffering with croup, diphtheria, or pneumonia.

We may add that Hartz stated that the same diplococcus is found in cerebro-spinal meningitis as in diphtheria.

HOUSE-TO-HOUSE INSPECTION.

House-to-house inspection for the purpose of discovering and correcting sanitary defects on private premises is just the kind of work that should be undertaken and vigorously pursued at the present time, not only in anticipation of cholera but of other diseases of the preventable class, which have their contributing or predisposing cause in filth. The most essential condition in the prevention of these diseases is cleanliness, and this can be enforced on

private premises in no better way than by a rigid inspection of every nook and corner of the domiciles of the people. A number of cities have already organized a plan of domiciliary visitations, and, in one notable instance, that of Illinois, a sanitary inspection of this character has been instituted for an entire State

While carrying on this commendable work upon private premises, the sanitary authorities should not overlook the dangers to the public health that are liable to arise from the want of a pure water-supply, from neglect to provide for the proper cleanliness of the public ways and places, for the prompt and complete removal of refuse matters, for the removal of all effluvium nuisances, and for the careful inspection of the food supplies. There should be no delay in inquiring into the efficiency of existing arrangements, and in correcting defects and supplying deficiencies wherever discovered. A judicious, energetic, and extended effort made at the present time by the sanitary authorities in behalf of the preservation of the public health, will certainly reduce the quantity of preventable disease, if it do not entirely avert an epidemic visitation. But something more than a mere spasmodic effort is required to secure durable results. Persistent activity is necessary in order to make headway against the constantly recurring causes of preventable disease.

Preparation should also be made to meet promptly the incipient cases of epidemic disease, so as to limit its progress, if not to stamp it out at once. Provision for medical supervision and the isolation of these cases, and the disinfection of clothing, house, and premises should be prearranged, so that no valuable time may be lost. In the event of an outbreak of sickness, house-to-house visitations by medical officers in districts where there is a suspicion of the concealment of cases will be of great advantage in checking the spread of disease.

LAPAROTOMY IN ACUTE PERITONITIS.

AT a recent meeting of the Royal Medical and Chirurgical Society, the proceedings of which may be found in the *British Medical Journal* for March 14th, MR. TREVES reported the case of a woman, twenty-one years of age, in which the belly was successfully opened and freely irrigated with water, and a drainage tube inserted, on account of diffused peritonitis, the result of the bursting of a pelvic abscess. Mr. Marsh also read the notes of a case of a medical student, nineteen years of age, suffering from critical symptoms of sudden and acute peritoneal inflammation, in which incision gave vent to about two pints of fetid pus. The abdomen was thoroughly washed out with a 1 to 60 solution of carbolic acid, and a drainage tube introduced. Under subsequent injections of a solution of iodine, 1 to 1000, the patient recovered.

In the discussion which followed the reading of Treves's paper, Bryant, Thornton, Powell, Barwell, Goodhart, and Meredith were in perfect accord in commending the practice carried out in the two cases noted. The conviction, indeed, appears to be gaining ground that, in view of the great fatality of acute diffused peritonitis, and the futility of ordinary modes of treatment, laparotomy should be resorted to, thereby placing effusions into the peritoneal cavity on the same footing as pleural effusions. Its success in cases of peritonitis complicated by the presence of an ovarian tumor has long been established; and Mr. Lawson Tait states, in the *British Medical Journal* for March 21st, that he has opened the abdomen in not less than 44 cases on account of peritonitis, and that 41 recovered.

In support of the wisdom of the practice, we may refer to a successful laparotomy, reported by Mikulicz, at the *Versammlung der Deutscher Naturförscher und Aerzte in Magdeburg*, September, 1884, for suppurative peritonitis, the result of a perforating typhoid ulcer. Krönlein, too, has resorted to it for peritonitis due to perforation of the vermiform appendix, but with what result we are not informed. Indeed, we believe that we express the opinion of all thoughtful surgeons when we say that the operation is indicated in all cases of suppurative peritonitis from whatever cause it may arise, as well as in examples of ordinary acute peritonitis, the result of perforating lesions of the stomach and intestines.

THE AMERICAN MEDICAL ASSOCIATION.

SIXTEEN years ago the American Medical Association met in New Orleans, and in a short time it will again convene in the great commercial city of the South. The number in attendance at the former meeting was by no means as large as probably will be present at this. Then desolated homes and shattered fortunes demanded too much of the time of many Southern physicians to permit their attendance, while others had not yet sufficiently buried war memories to clasp hands in cordial greeting with their brothers of the North, so that many of each section failed to be present. But now no such obstacles are presented; we are once more heartily one people, and one profession. The Exposition too, will take many a doctor to New Orleans who otherwise might wait until the Association met nearer home. All things considered, we believe that the coming meeting will be well attended, and trust that its deliberations will result in good to the profession.

Just before the last meeting of the American Medical Association THE NEWS urged the importance of allowing each Section to select its own pre-

siding officers, instead of this being done by the General Nominating Committee. At this meeting, Dr. Foster Pratt, of Michigan, presented an amendment authorizing this change, and action upon it will be had at the coming New Orleans meeting.

We cannot believe any reasonable objection will be made to the adoption of the new plan, while the arguments in its favor are strong, and should not be neglected by those who are sincerely concerned for the welfare of the Association. Without referring to the evils which have in some instances resulted from the method hitherto pursued in the selection of these officers, it will be readily admitted that those who form a Section, are present at its meetings and participate in its work, are the best qualified to judge as to the men most worthy of its honors, most suitable to conduct its deliberations, and most acceptable to those whose affairs they conduct. The best men should be given office, instead of the offices being sought, and in some instances secured, by active, obtrusive medical politicians, while abler, but more modest men, men who truly represent the profession, are left in the background.

REVIEWS.

Lectures on Diseases of the Rectum. Delivered at the Medical Department of the University of New York. By J. Williston Wright, M.D., Professor of Surgery. 8vo., pp. vi. 170. New York: Bermingham & Co., 1884.

This little book is full of excellent advice in regard to the treatment of diseases of the lower end of the bowel, and can be commended as plain, practical, and full of common sense. The author's style is about what one might expect in printed lectures, and bears the mark of the intimacy and familiarity which usually exist between the professor and his pupils. This, in our opinion, however entertaining it may be in the lecture-room, is out of place in a book. Occasionally one finds lecturers who are such Chrysostoms that it would be impossible to improve on their style in their most unpremeditated lectures; but often, we believe, the records of a stenographer would prove rather shocking to a clinical lecturer. For, even when no great literary faults would be found, the freedom from restraint which often adds a decided charm to one who speaks "*en famille*," as it were, to a medical class, looks like looseness when it attains the publicity of print. Sometimes, indeed, there is a real laxness in a lecturer's style, and when his lectures are published one meets with expressions in them which are of questionable taste anywhere, and are decidedly indelicate in a book.

It is to be regretted that the useful and instructive book before us is open to this objection. It may have added to the author's attractiveness as a lecturer in the mind of the medical student, to speak of the "scratcher-ani muscles," but the use of such an expression detracts from his dignity as an author, when it is made indelible in print. We think, further, that when he comes to reflect upon it he will wish he had not printed the story on page 96, in which a joke is repeated which we think it is not too severe to call vulgar. This tendency to be funny, which is illustrated in other parts of the author's lectures is a very dangerous one, and especially dangerous in one who is discussing such delicate subjects as medical books sometimes treat of. Witticisms about parts or functions of the body which are unmentionable in polite society, are much admired by a certain sort of people, and will doubtless be supplied as long as there is an active demand for them. But we believe that, for a right-minded man, it can only be a slip which leads him to seem of this sort, and that to call his attention to the matter would always suffice to prevent his making a similar mistake in the future.

In the case before us it is to be hoped that the merits of these lectures will so commend them to the medical public that the author will shortly have an opportunity, in a second edition, to redeem them from the only blemish worth mentioning which we believe them to have.

SOCIETY PROCEEDINGS.

OBSTETRICAL SOCIETY OF PHILADELPHIA.

Stated Meeting, April 2, 1885.

The President, B. F. Baer, M.D., in the Chair.

The President exhibited the specimen and reported the case of a rapidly growing

OVARIAN CYST.

A patient of Dr. A. G. Walls, of Lock Haven, Pa., M. L., æt. 26, single, puberty at fourteen, always well, and possessed of a remarkably fine physique, tall and robust, felt some pain and uneasiness in the ovarian region three months ago. She was examined by Dr. Walls, who found the right ovary enlarged to the size of a large orange. She soon after found that her abdomen was increasing in size.

On March 9th, I saw her. She was beginning to show facial signs of ovarian disease in slight emaciation, pallor, and the peculiar distress of countenance. The menses were regular, the abdomen was distended to the size of the eighth month of pregnancy and was perfectly symmetrical, pyriform in shape, dull on percussion with a resonant corona, extending around from one flank to the other, and there was marked fluctuation. Vagina virginal, cervix uteri pointing slightly forwards, body retroverted and mobile. The lower border of the abdominal tumor could be touched per vaginam. The uterus was not affected by the movement of the tumor. *Diagnosis:* Ovarian cystoma. Immediate removal advised. *Operation:* Assisted by Drs. Walls, Hayes, and Lichtenthaler, in the presence of Drs. Watson and Ball. Incision two and a half inches, fat in abdominal wall at least an inch in thickness. Tapped the cyst, which contained a bucketful of a thick fluid the color of pus. Removed the collapsed tumor through the small incision—there were no adhesions—ligatured the short pedicle and dropped it. The left ovary was found to be as large as a walnut and undergoing polycystic degeneration; it was also removed. The incision was closed

with six silk sutures. The patient recovered without an untoward symptom.

The rapidity of the development of this tumor was remarkable, and justified me in bringing it before you. The other ovary is a beautiful specimen of beginning polycystic disease. It is a curious fact that of my last six ovariotomies in not one of them did the period of development extend over nine months from the time the disease was first discovered. One of them only three months, as just reported, from the time it was found by Dr. Walls to be the size of an orange. They were all good-sized tumors, two of them weighing nearly forty pounds each.

THE BROMIDE OF ETHYL AS AN ANÆSTHETIC IN LABOR.

DR. MONTGOMERY reviewing the various anæsthetics, said chloroform is objectionable in that it causes inertia uteri and tedious labor, and increases the danger of post-partum hemorrhage. The relatively infrequent fatal cases under its use in surgical practice and the still more rarely serious results from its use in obstetrics, forbid its habitual use. The use of ether in natural labor is infrequent, because to relieve pain the patient must be profoundly etherized. Partial etherization destroys the ability to bear pain without obtunding sensation. Besides, Tait has demonstrated that ether passes rapidly into the circulation of the fœtus, endangering its existence. The mixture of nitrous oxide and air, advocated by Klikowitsch, requires a special apparatus and is unwieldy. The ideal anæsthetic is one that is safe for mother and child, certain in its effects, rapid in relieving pain without producing loss of consciousness, and whose effects pass off quickly. All these demands are met by the bromide of ethyl. He enumerated 112 cases in which it had been used, twenty-nine of which were in his own practice; none of the mothers died, and but three of the children. In none of the latter could death be attributed to its use. It was administered during the second stage of labor by placing a napkin, wet with a few drops of the ethyl, over the face of the patient at the advent of each pain and withdrawing it as the pain subsided. Unless a drachm was used, the sensation of pain was obtunded without arresting consciousness. The process of labor was carried forward, vigorously, and quietly, the patient ready to exert or withhold voluntary aid as her attendant might direct, and the expulsion of the head was attended by no greater pain than accompanies the evacuation of obstinately constipated bowels. His experience did not lead him to believe that its use would induce inertia uteri or increase the tendency to post-partum hemorrhage.

DR. D. M. BARR is much interested in this subject, and thinks, from this report, that the indications for the usefulness of bromide of ethyl are favorable. He would like to know to what degree the patient returned to consciousness between pains. He will use bromide of ethyl as an experiment, but he will say here that his old combination still gives him the very best effects with perfect safety. He has continued to use it in almost every case of labor since his report on anæsthetics in labor, see *Medical and Surgical Reporter*, March 13, 1880. He would feel some hesitation in using the bromide of ethyl, as it is dangerous, even if not so much so as chloroform. How would it act if mixed with ether? The objectionable qualities of chloroform and ether balance and overcome each other, and the addition of alcohol to the mixture prevents their explosive action, so to say; that is, the sudden effect of a full and deep inspiration of the strong vapor of the anæsthetic is prevented by the admixture of alcohol in the proportion of: Chloroform, one part, by measure; ether, three parts; and alcohol, two parts. If a portion of this mixture be placed in a saucer and heated, it will all evaporate together; the ether does not pass off from the alcohol. This mixture soothes the pain and makes the patient happy. The excited or drunken stage of ether is avoided; the danger of chloroform is avoided; unconsciousness is unnecessary, and is not produced. If bromide of ethyl has any of the dangers of chloroform, they are unchecked by admixture with correcting agents. Dr. Barr related the particulars of a case in which he had employed this mixture to show how kindly it acted in presence of suspected functional heart disease. In this case its administration was continued for nine hours; the pain was relieved, there was no vomiting, no effect upon the pulse.

DR. R. P. HARRIS remarked that chloroform was considered perfectly safe as an anæsthetic in labor. Playfair, in his last book, advocates it on this ground; but there have been fatal cases. The danger of an anæsthetic can only be ascertained after it has been used and reported by many observers, so as to get an average. Some men are careful and cautious, but all are not. The use of mixed anæsthetics is becoming more general in England.

DR. W. M. WELSH, upon invitation, remarked that he had had no exprience with bromide of ethyl and but very little with other anæsthetics. He had given ether in one case, and a troublesome condition of intoxication had been developed. He was applying the forceps, and the patient suddenly seized one blade and wrenching it out of the vagina tore the vulva. He prefers to get along without the use of anæsthetics.

DR. HENRY LEAMAN, upon invitation, said that he also had no experience with the bromide of ethyl. He does not hesitate to use ether in bad cases of labor, but he does not employ it when he can avoid it. He is not yet convinced that the use of anæsthetics in natural labor is advisable. There has not yet been formulated a satisfactory definition of natural labor. He is now engaged in studying that subject. He has observed in private practice most of the positions described by Engelmann in his papers on primitive obstetric practice. The sympathetic system in labor reacts upon the cerebro-spinal system and produces the condition of nervous excitement which is seen in the patient, and which often extends to the friends of the patient and even to the doctor in charge of the case. After a close observation of over six hundred cases, he thinks labor can be as natural a physiological operation as respiration or the circulation of the blood, or any other function of the body, with this one difference, that whereas the ordinary performance of function is pleasurable, in labor pleasure is replaced by pain. He is not in favor of the use of anæsthetics merely to remove or obtund this pain, as it is natural; and anæsthetics may interfere with the natural process and cause relaxation or retard involution, resulting in that root of endless misery, a subinvoluted uterus.

Dr. Leaman has been making careful studies with a dynamometer, which measures the available pressure. He believes that it gives the sum of the pressure applied to the ovum expressed in the projection of the advancing part, against which it rests. He will continue these studies, which are not yet complete. The force of the accessory muscles, as the diaphragm and abdominal muscles, takes no real part in the expulsion of the fœtus, but merely embraces the uterus, preventing any rebound or loss of force when the ovum impinges against the pelvic walls or perineum, their action being to sustain or hold the uterus closely to its work. The entire force exerted is not nearly so great as is usually supposed. The force of labor does not exceed that of arterial pressure, which, I think, is about six pounds. The exit of the child is not violent, but gradual. It is a popular belief that a majority of labors occur at night, but, of his six hundred carefully recorded cases, an equal number were born between 6 A.M. and 6 P.M. and between 6 P.M. and 6 A.M. There are, however, two acmes, one at 11 P.M. and another between 7 and 8 A.M. These two periods correspond to the times of greatest blood-pressure. He ranges himself on the side of those who believe in the non-necessity of the use of anæsthetics in natural labor.

Dr. W. H. Parish would like to hear more particularly from Dr. Montgomery in his closing remarks respecting the safety of bromide of ethyl as an anæsthetic. A few years ago it was introduced into surgical practice in this city, and was abandoned in consequence of its dangerous character. If it is dangerous in surgery, why should it not be so also in obstetrics? Chloroform which was at one time considered perfectly harmless in the latter class, has been found to be no safer there than in ordinary cases.

He has established for himself three rules respecting the use af anæsthetics in obstetric cases:

1st. In easy normal cases no anæsthetic is required.

2d. If the patient is nervous, excited, and uncontrollable, he gives chloroform at the incipiency of each pain, to quit the excitability of the patient and take off the sharpness of the pain without producing unconsciousness; during the intervals between pains the chloroform is withheld.

3d. Whenever he considers that unconsciousness, full anæsthesia, is necessary, he employs ether, so as to avoid the depressing effects of chloroform. Bromide of ethyl might be used in place of chloroform, as indicated in his second rule, if shown to be equally safe; but he would not consider it proper to use it to produce complete relaxation as required for version or the application of the forceps. Prof. Wood, in his experiments, found bromide of ethyl more dangerous than chloroform. Dr. Parish does not now use it, and he fears it would go hard with any physician before our courts if he had a fatal accident occur during its use.

Dr. Barr thought Dr. Leaman's estimate of the force required to extrude a full term fœtus far below the mark. A child weighing seven pounds or over is pushed through a curved, horizontal, resisting passage, with irresistible power, and sometimes rapidity. A force of six pounds would not lacerate a perineum. In some cases there is but slight resistance, and the force required is small and the pain not severe. He has seen cows moaning from the severity of their pains during parturition. In one case recently, a cat was delivered of its first kitten after severe and prolonged pain, and the second kitten required three hours for its extrusion. The pains of labor are more easily alleviated than the pains of surgery by anæsthetics, and with no increase, if not a diminution, of danger.

Dr. Montgomery, in closing, said that as to danger from the use of bromide of ethyl, he thought there was no danger if a pure article was carefully used. The patient is not completely narcotized, consciousness is not lost, the administration of the drug is interrupted. The patient can coöperate, although relieved of suffering. She can answer questions. Prof. Müller is the only one who has failed in obtaining good effects, and this was probably due to impurity in the drug. Bromide of ethyl does not take the place of chloroform, nor does it produce muscular relaxation, nor relaxation of the uterus as required in version. It can be pushed to complete unconsciousness, but that is not necessary, as pain will be relieved without, while the contractions of the uterus and respiratory muscles are fully as effective as without it. Labor is undoubtedly a physiological process as much so as respiration or defecation, but it does hurt. It is the type of the most severe and agonizing suffering, and we as physicians are called on to relieve that suffering and prevent the waste of vital force to the extent that we can by preventing pain, long-continued pain. Bromide of ethyl is apparently entirely safe when given as I have used it. Experimental physiologists do not all agree with Prof. Wood as to the comparative danger of this and other anæsthetics.

NEW YORK SURGICAL SOCIETY.

Stated Meeting, March 24, 1885.

The President, R. F. Weir, M.D., in the Chair.

NECROSIS OF THE LOWER PORTION OF THE FEMUR; EPITHELIOMA; AMPUTATION.

Dr. McBurney presented a specimen removed by amputation from a man thirty-five years of age, who had his first periostitis twenty-eight years previously. The bone was the seat of necrosis, as shown by the presence of a sequestrum projecting from the inner side of the thigh, and for a period of nine and a half years he had escaped surgical treatment. Sinuses had formed at different points, and finally an epitheliomatous mass developed at the inner side of the thigh, some four or five inches in diameter, through which the sequestrum protruded. There was great dislocation of the leg backwards, and the limb was useless. On dissection the artery was found lying in absolute contact with the specimen of dead bone. Fortunately no one had made sufficient strain upon it to cause hemorrhage.

Dr. Post remarked that probably if the sequestrum had been discovered and removed, the epithelioma would not have developed. Several years ago he saw a case of epithelioma, the result of a wound of the leg which had been received in the war, and which had remained unhealed.

The President remarked that he thought all had seen instances of epitheliomatous growth from long-continued bone injuries at the lower or middle portion of the tibia, but Dr. McBurney's specimen was the first

which he had seen where epithelioma under such circumstances had invaded the thigh.

FRACTURE OF THE PATELLA.

DR. SANDS was called in consultation three days ago to see a lady who had received, ten days previously, an injury while getting off a railroad car in the Grand Central Depot. She stepped from the car to the platform, which, she says, was an unusual distance, and alighted upon the right foot. She was aware that she had received some injury by feeling a sharp pain which almost caused fainting, and by hearing and feeling something snap. She did not fall, and was certain that she did not strike her knee. She was able to walk a considerable distance—nearly the length of the depot—where she was met by a relative who escorted her to her carriage, in which she was driven home. She was able to ascend the steps without much assistance, and was helped upstairs to her bedroom in a similar way. On the following day, she sent for her physician, who found a great deal of swelling in the lower part of the thigh, from extravasation of blood, and also a considerable effusion into the knee-joint. Ten days afterward the effusion into the knee-joint had subsided, the ecchymosis had disappeared, and a fracture of the patella was discovered. Dr. Sands saw the patient, and found that the fragments were separated to the extent of half an inch. A singular feature of the case was that the fracture, which ran through the middle of the bone, was not transverse, but diagonal, running from above downward and inward.

This was the only case in Dr. Sands's experience in which he had ever known a person to fracture the patell a completely and to be able to walk immediately afterward, and he would like to know the observations of the members of the Society on that point.

The other fact which was interesting was that the fracture was evidently produced by muscular violence, and that it should show the obliquity noticed in the present case.

DR. L. A. STIMSON had a case, three or four years ago, in which oblique fracture of the patella took place, as in Dr. Sands's case, and in which, also, the fracture was produced by muscular action. He did not remember that the patient was able to walk. The line of fracture ran from the outer upper angle downward to a point below the equator. Dr. Stimson remarked that it had been stated in text-books that patients with fracture of the patella could walk backward.

THE PRESIDENT remembered one case in which a man fractured the upper portion of the patella, and who walked upstairs; whether the fracture was transverse or not, he was unable to recall.

MONTREAL MEDICO-CHIRURGICAL SOCIETY.

Stated Meeting, March 25, 1885.

T. G. RODDICK, M.D., IN THE CHAIR.

DR. FRANCIS I. SHEPHERD read a paper on

THE MUSCULUS STERNALIS AND ITS OCCURRENCE IN ANENCEPHALOUS MONSTERS.

He stated that the musculus sternalis was a supernumerary muscle which has always excited a great deal of interest among anatomists, and that its proper morphological significance was not yet fully determined. It was seen in about three or four per cent. of ordinary individuals, and its fibres generally ran at right angles and superficial to the great pectoral. It was often bilateral but most frequently unilateral, and was subject to many variations. Frequently it had no attachment to bone, but lay superficial to the great pectoral and was attached at either end to fascia. It often was inserted into the costal cartilages. It might be continuous above with the sternal origin of the sterno-mastoid, and below with the fascia of the external abdominal oblique. Again, it might be continuous with the pectoralis major and be associated with deficiency of that muscle. It was often of small size, but occasionally it was quite a strong muscle, and could be seen under the skin in the living. Dr. Shepherd had seen it measuring five inches long, two and a half inches broad, and two a half inches thick. For years it was considered to be a remnant of the rectus abdominis, which in many animals extends from the pubis to the top of the sternum, and was called the "*sternalis brutorum*." This view had long ago been given up because the rectus abdominis lies in a plane deeper than the great pectoral, and is never superficial to it. Bourienne many years ago held that it was a prolongation downwards of the sterno-mastoid, a view still held by Henle and others. Hallett and Wilde regarded it as belonging to the same group of muscles as the platysma, and Prof. Turner, of Edinburgh, considered it to be one of the representatives in man of the great panniculus group which exists in most mammals. Darwin also held this view in his work on the *Descent of Man*, after referring to the views of Prof. Halbertsma, M. Testut, and Prof. Bardeleben.

Dr. Shepherd stated that Prof. Cunningham, of Dublin, had lately in five cases traced the nerve supply of the musculus sternalis to the anterior thoracic nerve, and that he, believing that the nerve supply was the best indication for the proper classification of muscles considered that the musculus sternalis belonged to the pectoral group. Prof. Cunningham also suggested that this was a new inspiratory muscle appearing in man, and that it was his impression that it occurred more frequently in females, due posibly to costal inspiration being more pronounced in them. Mr. Abraham, of Dublin, first pointed out, last year, that this muscle was very common in anencephalous monsters, as he had found it in six out of eleven specimens examined. Mr. Abraham looked upon it as probably an aberrant portion of the great pectoral muscle.

Dr. Shepherd said he had examined six anencephalous monsters which were in the Museum of the Medical School of McGill University, and wished to place the results of his dissection before the Society.[1] In each monster he had found a well-developed musculus sternalis. In three the muscle was double. In two continuous above with the sterno-mastoid, and in several it arose from the manubrium sterni and was inserted into the costal cartilages. In all the cases there was a deficiency of the great pectoral muscle on the side where the supernumerary muscle was found, the abnormal muscle apparently taking the place of the absent portion of the pectoral In several the muscle was of

[1] The specimens were exhibited to the Society after the reading of the paper.

large size, and in part continuous with the fibres of the great pectoral. Nine muscles, in all, were found in six monsters, as three had double muscles. Dr. Shepherd had successfully traced the nerve supply of these muscles in all but two, that is, seven of the muscles were supplied by the anterior thoracic nerve, the nerve entered the muscle in its deep surface and could be traced back over the lesser pectoral through the costo-coracoid membrane to the internal anterior thoracic nerve.

Dr. Shepherd remarked that it was a curious fact that this muscle should be supplied by a nerve which is at so great a distance from it, and not by the intercostal nerve, which in several cases pierced the abnormal muscle without giving any branches to it. He also stated that he had formerly held that the *musculus sternalis* belonged to the panniculus group, but that these dissections had caused him to alter entirely his previous views as to its homology, and that now he had little doubt that this muscle belonged to the pectoral group because: 1. Its nerve supply. 2. When present the great pectoral is generally deficient. 3. Its continuity in many cases with the great pectoral. 4. That it was in the same muscular plane as the great pectoral. Dr. Shepherd said that it was his belief that the nerve supply was the best guide we possessed for determining the homology of a muscle.

Dr. Shepherd was unable to explain why this muscle should be so common in anencephalous monsters, except that in these undeveloped beings there was a greater tendency to revert to previous conditions; but he said it was difficult to reconcile the fact that this muscle was an aberrant portion of the great pectoral and a reversion to some preëxisting muscle, as no known existing arrangement of the pectoral group in the lower animals at all resembles the condition found in these monsters. He also stated that if this muscle was an aberrant portion of the great pectoral which had no animal representative, then Prof. Cunningham's theory that it was a new muscle appearing in man had some degree of probability. Dr. Shepherd said he was not prepared to accept this explanation, but awaited further light and further knowledge of comparative anatomy before pronouncing definitely on the morphological significance of the musculus sternalis.

CORRESPONDENCE.

ON THE STAMPING OUT OF EPIDEMIC CHOLERA IN THE CITY OF NEW YORK IN 1866 AND 1867.

To the Editor of The Medical News.

Sir: In 1866 and 1867 epidemic cholera in the city of New York was effectually stamped out by disinfecting and other measures employed to prevent the diffusion of the disease. These measures were adopted by the Metropolitan Board of Health, which had recently been organized. They were carried out under the direction of the late lamented Edward B. Dalton, who had been appointed by the Board Sanitary Superintendent. With regard to their success, I quote a paragraph from a paper which I read at a meeting of the New York County Medical Association in October last, as follows: "My belief is that never before nor since, in any other part of this or in any other country, have measures for the prevention of epidemic cholera been devised so scientifically, so thoroughly carried out, and so successful in their results as those employed by the Metropolitan Board of Health in 1866 and 1867. They should be cited throughout the world as evidence that epidemic cholera is a disease which may be stamped out by efficient sanitary measures efficiently employed. I believe firmly that, should the disease be again introduced into this country, to decide whether or not it shall prevail as an epidemic, lies within the power of preventive medicine."

The results of the preventive measures in 1866 were stated by the late Elisha Harris in his report as Registrar of Vital Statistics, as follows:

"In houses and localities where well-marked first cases were not promptly treated by local cleansing and specific disinfection, cholera soon gained a foothold as a local epidemic, and we have found no large group of fatal cases in which this was not true; while in a great number of instances where the disinfection was prompt and adequate, *the arrest of cholera in the very worst localities and the worst houses and population was immediate and final.*"

"*In three hundred and sixty-two houses* where individuals or families were smitten with cholera, but which were promptly brought under full sanitary control by disinfection and sanitary purification, the pestilence *did not extend beyond the family in which the first case occurred.*"

Certainly no facts could demonstrate more conclusively than these that epidemic cholera was stamped out in the city of New York in 1866.

In 1867, cases of cholera again occurred in the city of New York. With regard to the stamping out of the disease in that year, I quote the following from the report of Jackson S. Schultz, President of the Board of Health: "Twenty-seven deaths from cholera have occurred during the past year in the city of New York, five in the city of Brooklyn, and eighteen at the military post in the harbor. The disease has not excited public alarm, and never approached the character of a general epidemic. The means used to combat it were the same as those employed in the year 1866. Wherever a case occurred the Disinfecting Corps cleansed the buildings, or fumigated them with sulphur, and destroyed the clothing, if it could not be disinfected by boiling water, or the permanganate of potash. The experience of another year has confirmed the opinion that active interference by means of disinfectants is the surest way to control and arrest this terrible disease."

The foregoing quotations from the reports of Dr. Harris and Mr. Schultz are contained in the volumes entitled "Report of the Metropolitan Board of Health" for 1866 and 1867. These volumes were published by the State of New York at Albany.

On the basis of the facts contained in these volumes, may it not be claimed, in behalf of the means employed in 1866 and 1867, that, if carried out with equal efficiency, they will prove equally efficacious whenever and wherever epidemic cholera may again appear? Entertaining the conviction that this question may be answered in the affirmative, it seems to me very desirable that a full account of these measures should be available for the medical profession. The volumes of

not be accessible to many, and, therefore, I am led to suggest the publication of extracts from the report of the Board of Health by Dr. Dalton, embracing a detailed account of the measures, which, under his admirable direction, were carried out faithfully, and the success of which renders them immensely important in view of the probability that they may soon be called into requisition. Yours truly,

Austin Flint, M.D.

New York, April 14, 1885.

Extract from the report of the late Edward B. Dalton, Sanitary Superintendent to the Metropolitan Board of Health, November 1, 1866.

"A large quantity of chloride of lime, sulphate of iron, and permanganate of potassa, was, therefore, purchased, articles which abundant experience in hospitals, civil, and military, had proved to be most efficient for ordinary disinfection, and the recent use of which abroad had given evidence of a probable efficiency in arresting the progress of cholera. Measures were at once adopted for the constant use of these agents, and a plan was put in force by which every case of cholera, which could be discovered, should be promptly investigated, the patient cared for, and every possible advantage derived from disinfection. All persons were called upon to give intelligence, at once, at the nearest police station, of any case of supposed cholera coming under their notice. The officer in charge of the station-house was to notify the nearest sanitary inspector, and it became the duty of the latter to investigate the case immediately, report its true character by telegraph to the central office, and render such professional aid, and in cases proving to be cholera, direct such measures for preventing the spread of the disease as might be necessary.[1] The office of the Superintendent was now constantly open, and for this purpose four inspectors were detailed for extra duty at night and on Sunday, two of them being on duty at the office on alternate nights and Sundays. It was the duty of these officers to attend to any case which might become known directly to them, or which might be referred to them from a precinct station-house, in case the officer in charge there had failed to find an inspector close at hand.

"Under the direction of the Board, a disinfecting depot and laboratory was established in a building, No. 308 Mulberry St., immediately adjacent to the central office. This depot was placed under the immediate charge of Mr. James A. Christie, late a lieutenant in the army, and who had before the war a practical education as a druggist, assisted by Mr. I. B. Gardner, also a practical druggist. There were employed a number of assistants, all men who had served honorably in the army and navy. A sufficient number of horses and light covered wagons were purchased and kept in a neighboring stable, ready for immediate use.

"The laboratory was constantly used for experiments in the use and combination of various disinfectants, and the men for the proper and faithful application of the same. Both Mr. Christie and his men lodged in the building, and the latter were organized into various squads, or reliefs, for the performance of duty in successive portions of the twenty-four hours. This duty, as the season advanced, became of a most laborious and often hazardous character. The men were constantly visiting infected districts, entering the houses there, and handling bedding and clothes soiled by the dejections of cholera patients. They were obliged to disinfect all bodies dead of cholera, and frequently to place them in coffins and remove them to the morgue. To the judgment and devotion of Mr. Christie, and the fidelity of his men, is due the satisfaction which this branch of the business has given."

The process of disinfection consisted in putting sulphate of iron, either in saturated solution, or dry, if used in wet places, where dejections had been deposited. An ordinary privy, six feet in diameter and twelve feet deep, required twenty pounds of the sulphate of iron for its thorough disinfection. All bedding and clothing, soiled or used by the patient, was boiled in a solution of the permanganate of potassa, of the strength of one ounce to five gallons of water, for two hours, and then removed and reboiled in pure water. For purifying the atmosphere of the room without incommoding the patient, chlorine was gradually set free by adding sulphuric acid to a mixture of binoxide of manganese and chloride of sodium (common salt). In addition to these measures, chloride of lime, or Labarraque's solution of chlorinated soda, was scattered freely about the floors of the rooms and halls of the house. Dead bodies were washed in a solution of chloride of lime or chlorinated soda, and then packed in the coffin with chloride of lime.

A large quantity of common lime and charcoal dust was purchased and placed in the branch at the "Five Points," to be used in the general disinfection of filthy localities, without reference to the occurrence of cholera. A number of horses and carts were hired, and a sufficient number of men to furnish each cart with one helper, beside the driver, to distribute the material. This force was placed under the immediate charge of officer Ezekiel Palmer, of the Sanitary Corps of Police, who has conducted this branch of the business throughout the season with great judgment and fidelity. The plan adopted was to pass through each street in the filthy portions of the city once, and in some instances twice, in each week, and sprinkle the disinfectants freely along the gutters and throughout the alleys and yards, and deposit a certain amount in each garbage box, privy, and filthy cellar. Now and then a few loads of sulphate of iron and chloride of lime were used in the worst places. At first the inhabitants misunderstood the operation, but it soon became popular and received their hearty cöoperation.

Additional instructions were issued to the sanitary inspectors and assistants in the following order:

"Sanitary inspectors and assistant inspectors will immediately investigate any case of supposed cholera reported at any hour by any officer of the Metropolitan Police. They will do what may be immediately necessary, professionally, and will give instructions as to the proper method of obtaining medical attendance from the dispensaries, or, if the case require it, of giving admission to hospital, and furnish the necessary certificate. They will at once decide what is necessary in the way of disinfection; and, if the parties be able to procure and employ the necessary articles themselves, the in-

the Reports of the Metropolitan Board of Health may

[1] Twenty-nine medical inspectors were appointed for the city of New York, and eight for the city of Brooklyn.

spector will give them detailed instructions regarding the same, and make a reinspection of the premises six hours later, to ascertain if his instructions have been carried out. In any case where the parties are unable to procure and employ the necessary articles, the inspector will at once apply at the nearest police station, and through the officer in charge telegraph to this office that disinfection is necessary at said premises, giving accurately street, number, room, etc. He will then reinspect after six hours, and ascertain whether the proper action has been taken. Every inspector will promptly report his action at the office in person, by telegraph, or in writing."

"Sanitary inspectors and assistant inspectors will keep notes of every case of cholera investigated by them until either recovery or death takes place, and will then promptly report the result to this office in writing if recovery, by telegraph, if death." The inspectors in the country districts were instructed to "forward to this office a written report upon each case of supposed cholera investigated by them, whether proved to be genuine or not, within twenty-four hours subsequent to said investigation."

The inspectors were also called together at the office of the Superintendent once a week, and a more full understanding of their duties and responsibilities obtained, especially from various practical suggestions which occurred to them while in the performance of their duty. They were especially instructed to make thorough inspection of premises where any case of cholera occurred, to visit every family residing on or near said premises, and inquire carefully for any premonitory symptoms resembling those of cholera, and on finding such, to give advice; and, if necessary, treatment—to extend such investigation throughout a block, or as much further as, in their judgment, the situation and circumstances required; to repeat these visits from time to time during the week or two following the occurrence of a case, so as either to be sure that no second case was to appear, or, in case of such appearance, to meet it promptly.

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The practical application of disinfectants was soon reduced to a simple system, which was followed in every case and with apparently satisfactory results. Whenever a dispatch was received at the central office that disinfection was needed at any house, Mr. Christie was notified, a wagon loaded with the requisite material, and the men at once sent to the spot. The officers and men of the police force were most prompt in their coöperation, and the disinfecting men were usually at work on the premises within an hour from the time at which the dispatch was forwarded from the station-house.

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The plan of disinfection already described has given entire satisfaction as regards the dejections, clothing, and other immediate surroundings of the patient; but frequently the recurrence of successive cases in tenement houses showed that the power of such measures was too limited, and, at an early date, general fumigation of such buildings was resorted to either with chlorine, or sulphurous acid gas. The process was this: All tenants were removed from the house, being allowed to take out nothing more than the clothing then upon them. All the windows and chimneys were closed. The gas was then set free in quantity—if chlorine, by the addition of sulphuric acid to chloride of lime; if sulphurous acid, by the burning of sulphur in large open pans supported by long iron legs. The men employed commenced the process on the upper floors, and descended, leaving the pans in operation on the different floors, and finally closed the street door. The house thus filled with the gas was left undisturbed for from eight to twelve hours. It was then opened and freely aired, and finally the tenants allowed to reoccupy.

The first house treated in this manner was an emigrant hotel in the lower part of State Street. Three cases of cholera occurred in this house within a period of thirty-six hours, and a large number of boarders were attacked about the same time with severe diarrhœa. The proprietors were notified that all guests must leave, and the hotel be closed. This was promptly done. The house was then thoroughly fumigated with chlorine, and kept so for twenty-four hours, when it was opened and aired. It was then cleaned throughout, and the walls freely whitewashed. At the end of ten days, the hotel was reopened, and very soon crowded with lodgers. No case of cholera or other disease of any moment has occurred there since.

Subsequently a large number of houses were fumigated after cholera had occurred in them. Sometimes chlorine was the agent, and at others sulphurous acid. They have proved equally satisfactory, though in far the larger number the latter was used. In the great majority of instances, fumigation has been followed by immunity from the disease. In a few, however, cases have occurred subsequently to the process, but they have seemed the result of renewed exciting causes. The evidence is strong that the adjuvants of cholera, such as impure air and improper food, which encourage the development into actual disease of the prevailing disposition; and, second, those direct agents in its propagation, such as the dejections of patients, can be controlled and even destroyed by a strict enforcement of cleanliness and the prompt use of disinfectants; and the mortality may be restricted to the minimum, which is due to the presence of the cholera poison proper. If these conclusions are just, it must be inferred that while the cases of cholera, which have occurred the past season, have been of the severest and most unyielding type, yet the infection has not been largely present. That the epidemic, if such it may be called (which might, if left unrestrained, have grown indefinitely), has had comparatively but a feeble foundation, and so has been more readily controlled.

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Throughout the whole season not an officer nor an employé of any of the four hospitals has had the disease, A few have had severe attacks of diarrhœa, which have yielded readily to ordinary treatment, and, finally, every one who has been employed, has left the hospital in as good health as when they came. The most rigid cleanliness, and constant and careful use of disinfectants, have been enforced. All dejections were either received at once into vessels containing a sufficient amount of disinfectant (sulphate of iron), or the latter was immediately added. Soiled bedding, or clothes were at once removed and put in soak in a solution of permanganate of potassa—one ounce to five gallons of water. The walls of the wards were always kept freshly

whitewashed, the wash containing a small proportion of the chloride of lime, and the floors were frequently scrubbed with the latter, and some of the same placed in various parts of the rooms and halls. For further details I refer to the reports of the officers in charge.

NEWS ITEMS.

NEW YORK.

(From our Special Correspondent.)

THE NEW BOSTON "MENTAL CURE" has reached New York, and those "cranks" who have exhausted the virtue of hot water and spectacles, are now submitting to the laying on of hands.

A STATE EXAMINING BOARD.—There seems to be a strong probability that the new law, which requires a State examination by the Regents, will be passed, in spite of the fact that the eclectics and homœopathics claim that they will not be properly represented in the Board.

THE CABLE ROAD AND UNDERGROUND WIRES.—Much discussion has arisen in regard to the new cable road that it is feared may be built, and the laying of telegraph wires beneath the street surface. Many affidavits of medical men have been presented by the counsel opposed to these enterprises. There is an almost general opposition to the tearing up of the streets this summer in face of the approach of cholera. The Board of Health have come out with a protest, and it now looks as if the pavements of the city would not be disturbed.

GENERAL GRANT.—The papers are filled with the case of General Grant, and some of the reports, despite the sad nature of the subject, are ludicrous in the extreme, and the active mind of the reporter has found vent in glowing descriptions of the doctors, the visitors, and the family of the illustrious sufferer. The bulletins recall the death of the late President Garfield, and many of them are as grandiloquent and meaningless.

MONTREAL.

(From our Special Correspondent.)

MEDICAL ARRANGEMENTS IN CONNECTION WITH THE NORTHWEST REBELLION.—There has been great activity lately in military circles owing to the half-breed rebellion in the northwest. Regiments have been hurried off to the scene of action rapidly, and hence not thoroughly equipped. The medical department was found very inefficient, and needed thorough reorganization. Dr. Bergin, M.P., has been appointed Surgeon-General, and Dr. T. G. Roddick, Prof. of Clinical Surgery in McGill University, is to proceed to the northwest immediately as Deputy Surgeon-General, and to have complete control of the hospital arrangements. He takes up with him materials for the equipment of base and field hospitals, and also a large staff of medical men and dressers. It is expected that a force of 10,000 men will be needed to put down the uprising. Most of these men being unaccustomed to campaigning, the season of the year being unfavorable, and the distance so enormous, it is expected that a large number will require treatment in hospital. The appointment of Prof. Roddick as principal medical officer to the expedition is a guarantee that the sick and wounded will be well cared for, and has given great satisfaction to the profession.

CONVERSAZIONE AT THE COLLEGE OF PHYSICIANS OF PHILADELPHIA.—A conversazione was given at the College of Physicians on Thursday evening. The guests were received by the President, Dr. Da Costa.

Drs. Weir Mitchell and E. T. Reichert exhibited specimens of snake poisons and drawings showing their effects. Drs. Shakespeare and Formad exhibited apparatus for sterilizing organic infusions, various cultures of bacilli, and the bacillus of tuberculosis and of cholera. The circulation of the blood, and the various forms of bacilli were also shown by the lantern microscope.

THE PATHOLOGICAL SOCIETY OF PHILADELPHIA.—Dr. George M. Sternberg, U.S.A., delivered an address before this Society last night on "The Pneumoniacoccus of Friedlander," which constituted one of the most important contributions which has yet been made to the subject of "disease germs."

MEDICAL SOCIETY MEETINGS.—The thirty-sixth annual meeting of the American Medical Association will convene at New Orleans on Tuesday, April 21st, under the presidency of Dr. Henry F. Campbell, of Georgia.

The Louisiana State Medical Society will meet at New Orleans, and the South Carolina Medical Association at Charleston, on Tuesday, the 21st instant.

The Arkansas State Medical Society will hold its annual session at Little Rock on Wednesday, the 22d instant.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM APRIL 7 TO APRIL 13, 1885.

BROWN, HARVEY E., *Major and Surgeon.*—Leave of absence extended two months.—*S. O. 83, A. G. O.*, April 11, 1885.

BIART, VICTOR, *Captain and Assistant Surgeon.*—Leave of absence extended six months on surgeon's certificate of disability.—*S. O. 77, A. G. O.*, April 4, 1885.

COWDREY, STEVENS G., *Captain and Assistant Surgeon.*—From Department of the East to Department of Missouri.—*S. O. 77, A. G. O.*, April 4, 1885.

DE LOFERE, AUGUSTUS A., *Captain and Assistant Surgeon.*—From Department of the East to Department of Dakota.—*S. O. 77, A. G. O.*, April 4, 1885.

CRAMPTON, LOUIS W., *Captain and Assistan Surgeon.*—From Department of the East to Department of the Platte.—*S. O. 77, A. G. O.*, April 4, 1885.

TORNEY, GEORGE H., *Captain and Assistant urgeon.*—From Department of Missouri to Department of the East.—*S. O. 77, A. G. O.*, April 4, 1885.

ARTHUR, WM. H., *First Lieutenant and Assistant Surgeon.*—From Department of the Platte to Department of the East.—*S. O. 77, A. G. O.*, April 4, 1885.

WYETH, M. C., *First Lieutenant and Assistant Surgeon.*—From Department of Dakota to Department of the East.—*S. O. 77, A. G. O.*, April 4, 1885.

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the NEWS *should be addressed to No. 1004 Walnut Street, Philadelphia.*

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. XLVI. SATURDAY, APRIL 25, 1885. NO. 17.

ORIGINAL LECTURES.

ON SCROFULA.

A Clinical Lecture delivered at the Good Samaritan Hospital, Cincinnati.

BY F. FORCHHEIMER, M.D.,

PROFESSOR OF PHYSIOLOGY AND CLINICAL DISEASES OF CHILDREN AT THE MEDICAL COLLEGE OF OHIO.

(Reported by JAMES M. FRENCH, M.D.)

GENTLEMEN: I bring before you this afternoon a little negro child suffering from a disease that is very common to its race. What it is, I shall ask you to tell me after you have heard the history of the case.

The child is now fourteen months old. You observe that it is somewhat emaciated; and, although a negro, you can see that it is anæmic, its head is of the type which we call the square head, and the fontanelle is still large and somewhat depressed. You see further that the child has a flat nose, from which there comes a bloody seropurulent discharge. The upper lip is very much swollen; the lower lip is also somewhat thickened, and at the corners of the mouth we see fissures with infiltrated edges. Continuing the examination, we find that there is a tendency to a chicken-breast, and that the child has a "frog's belly." The epiphyses are enlarged, especially those of the wrist-joint and of the lower extremities. The lymphatics about the neck are very much enlarged. There is no enlargement of the epitrochlear glands, but the axillary glands are infiltrated. The genitals, the soles of the feet, and the palms of the hands are perfectly free from signs of disease. Examining the mouth, we find that upon the tongue and upon the sides of the cheeks there are whitish patches, which, when removed, leave a bleeding surface.

The case is now ready for diagnosis. What is it? Among the answers that I receive I hear the word "scrofula;" and that is what I expected. This is a typical case of scrofula; you could not desire anything more perfect. Here is a child that has a skin-disease; it has enlargement of all the lymphatic glands; it is troubled with its mucous membranes; what more would you wish? Now let us see what the disease really is. We have here all the symptoms of a rickets that has probably about completed its course. So far as I know, it has now no symptoms of the disease. The child has other manifestations, however, which were *formerly* classed under the head of scrofula—a *great many years ago*, we like to say—yet it is not many years; and some prominent members of the profession still use the term.

The eruption to which I have called your attention is best seen about the angles of the mouth. It is best described as a fissure with extensive infiltration of the surrounding tissue. There is, further, an eruption behind the ear—rather an unusual place for it to appear—an eruption that is also surrounded by an infiltration. In addition to this the child has, as I have told you, a flattened nose, and there comes from it a discharge which has an exceedingly offensive odor, and consists of blood, pus, and serum. It is also very irritating, and it is to this irritation that we must attribute the eruption and swelling of the upper lip. You have heard, also, that the child has universally enlarged glands. With this condition of things there is but one disease to be thought of. The fissure about the angle of the lips is, in fact, sufficient for us to make our diagnosis. When I first saw the eruption behind the ear, day before yesterday, it appeared as two discrete infiltrated spots, each the size of an old-fashioned silver half-dime, but they have since blended into one.

There is but one disease to be named, I say, that is hereditary syphilis. If, on the other hand, we had only this peculiar nose, characterized not only by a flatness of the bridge (not always present), but also by a seropurulent discharge, very thin, and of an exceedingly offensive odor, and streaked with blood, we should have to consider *two* diseases before deciding upon our diagnosis. We should have to consider a catarrh arising from tubercular deposits, and a syphilitic catarrh. We have here a disease known as ozæna, so-called because of the offensive odor of the discharge; and when in the presence of this disease, we are always justified in thinking of but two things, namely, a catarrh due to tuberculosis, and a catarrh due to syphilis.

In this regard recent investigations agree in every particular with the theories that have been held for a number of years. When I speak to you to-day of these troubles, I speak to you with authoritative knowledge, and not theoretically, as I formerly had to do. If, now, you take a large number of these cases of ozæna and examine the discharge from the nose for the bacillus tuberculosis, you will find them present in the great majority of instances. One of the most interesting cases of this kind was reported by Démme. A child was brought to him with an affection which he pronounced nasal catarrh of tubercular origin. The tuberculosis ultimately extended to the meninges, and the child died of tubercular meningitis. We have all hitherto been underestimating the importance of these local manifestations of tuberculosis. It has been my custom for years to point out to you the relation which I believed to exist between these local troubles and general tuberculosis.

You are justified in calling every case of ozæna a tubercular catarrh, or a syphilitic catarrh. Examine for the bacillus tuberculosis; if you find it, you know that you are dealing with a tubercular affection; if you do not find it, you are justified in pronouncing the disease one of syphilitic origin.

We have in this child a late manifestation of syphilis. There can now be no question about the case, except in regard to the possibility of the existence of tuberculosis in addition to the syphilitic trouble. It is not uncommon to have both these processes going on at the same time in the general system, or in the lungs alone. If you were to find in this child, in addition to its syphilis, a

tubercular process, your prognosis would of necessity be pitched at a much lower grade than otherwise. The child has at best a strong enemy to fight.

[Subsequent examination failed to discover the bacillus tuberculosis in this case.—Rep.]

Looked at from this standpoint, the whole subject of scrofulosis becomes very plain and simple. Looked at from the standpoint that it is either tuberculosis or syphilis, and that in probably ninety-nine cases out of a hundred it is tuberculosis, the subject of scrofulosis becomes very simple; but if you look through the literature of the subject for several hundred years in French, German, and English, you will be surprised to see how much of vague conjecture has been written upon it. Before his discovery of the bacillus, Koch claimed that tuberculosis and scrofulosis were identical in origin but he had no proof of the identity. It had been claimed that scrofula was simply a clinical picture, of really little importance—that it was, in fact, only a convenient name for the peculiar combination of symptoms that are presented in this case. The great objection to this term is, that while it is sufficiently applicable as long as it is used in a scientific way, it has, by a too general use, become degraded so as to be but little more than a mask for ignorance.

Let me give you an example of this. I have, within the last few weeks been called to see two cases in different families. In the one case the child had a profuse eruption covering its face, its neck, and its buttocks. I looked at the eruption carefully and found that it was an eczema. Of course the lymphatic glands were all enlarged. Upon inquiring into the history of the child, I found that Dr. So-and-so had treated it—that is, he had been giving it medicine internally—but the child had gotten no better. They tell me also that Dr. So-and-so, another physician, had not only given the child medicine, but had also put the mother upon a special diet, not permitting her to eat certain articles of food of which she is very fond,—probably the reason for his dismissal—but the eczema has gotten no better. Finally, under proper treatment, based upon a correct diagnosis, the child improved, and is now practically well. Here is a practical illustration. The physician who was called before me either thought that the child had hereditary syphilis, which would have been a mistake, indicating that he did not know his business, or, to be more charitable, he called the case one of scrofula and treated it for—he knew not what. Now he has by this mistake done harm both to the case and to himself, for the child could have been well long ago. Such practitioners reason, that because the child has an eruption and enlarged glands, it must have scrofula. Now all of you know that where there is an eruption of the skin, the neighboring glands are all enlarged. I do not deny that these glands that are enlarged from the irritation of an eruption in the skin are more likely to have developed in them the bacillus of tuberculosis than are healthy glands; but these gentlemen make an incorrect diagnosis and treat the child accordingly, with no results.

The second case to which I refer was a child about eight weeks old, in an excellent family. When the child was about four weeks old, an eruption appeared about the nose and corners of the mouth. It appeared also on the forehead and on the soles of the feet. This child had been treated by a physician who called the affection scrofula. I had no hesitation at all in going one step further and giving to the disease its proper name, "infantile syphilis." I put the child upon proper treatment and it recovered. These are simply examples of numerous cases that I could mention.

What now is there to be gained by using the term scrofula? Nothing. It is simply a term which, like a great many others, we use to cover over our ignorance. It has no actual value, and in that respect resembles paper money. I want you to fix this point in your minds, that scrofula is either tuberculosis or syphilis. Some cases however are called scrofula by many practitioners that are neither the one nor the other. Some are called scrofula which, like the first case that I narrated to you, are nothing but eczema. Any rational physician would not call such a case as that scrofula, for he would certainly know that the lymphatics which take away from the affected part its lymph, or supply lymph to it, must be enlarged. So, whatever be your views as to the origin of the eczema, whether you be a "localist" or a "constitutionalist," you have no right to call a case scrofula simply because the lymphatic glands are enlarged. As I told you before, we do more than theorize in regard to this subject; we make our diagnosis positive by examining for the bacillus tuberculosis. Not one of you should go out from this College until he knows how to examine for this bacillus, so important is such knowledge not only for the scientific investigation of disease, but also for diagnostic purposes. The process for its detection is not at all difficult, and when it is made, we have something that is positive. Wherever we find these bacilli, we know that the tubercular process is going on. It is true that it has taken away a good deal of the dread that we formerly had for the disease. We know now that it may be local, and not only that, but that it may be for a long time localized. Yet we know also that, from this local focus, there may come general tuberculosis, and hence the great importance of it to you as practitioners of medicine is that you may be able to detect the primary local focus and then endeavor to remove it. In cases in which there is incipient phthisis, you may sometimes detect the disease long before there is any positive physical evidence that would warrant you in making any great change in the habits of the individual, or advise a change of climate. I feel very sure that I have saved a number of lives as a result of this brilliant discovery of Koch, simply by having the patients secure at an early period of the disease the benefits of a change of climate.

Now, to return to this case. What shall we do for it? These large sores, these papules are to have applied to them *unguentum hydrargyri fortior*—the stronger ointment of mercury. This is put upon pledgets of lint, retained by a cap over the head. I do not know of any dressing that works with greater rapidity or with more certainty than does this stronger ointment of mercury, especially in the softer or papular forms of eruption wherever we find them.

What do we give this child internally? We give the iodide of potassium, especially for its effects upon the nose. I shall have this child brought before you at our next meeting, in order to show you the improvement we shall have obtained in the case by that time. You

will find that the iodide works wonderfully in these cases of ozæna. The first improvement is that the discharge becomes less offensive in odor, the next that it becomes less in quantity. If the child becomes thoroughly under the effects of the iodide, the discharge becomes greater in quantity again, but it is a different kind of discharge.

Having, now, this form of eruption in the mouth, having made the diagnosis of syphilis, you would intuitively come to the conclusion that the eruption was due either to the syphilitic infection or to long-continued mercurial treatment received before coming to us. In regard to treatment, we know that the child has not been treated by mercurials for the simple reason that we do not find here a mercurial stomatitis. We have not the characteristic eruption of mercury. We have not the red line about the gums, we do not have the salivation, or the offensive odor from the mouth. Neither is this a syphilitic stomatitis, and why? In the first place it is not localized as a syphilitic stomatitis ought to be; it does not appear where a syphilitic stomatitis generally occurs; that is, about the posterior segment of the mouth. This alone would not be sufficient to exclude syphilitic stomatitis, but if you look at one of these small spots carefully, you will see that it is made up of a layer of necrotic tissue beneath which there seems to be perfectly healthy mucous membrane. If you strip up this layer, you turn back a mass of dead epithelium, and you find that in the centre it leaves a healthy mucous membrane, while at the periphery it leaves a bleeding surface. What then is it? I have no hesitation in saying that it is simply a case of stomatitis aphthosa, aphthous stomatitis. What shall we do for this? Nothing beyond keeping the mouth clean and having it washed out freely with the best disinfectant for the mouth, namely, the chlorate of potash in solution. By the time the child comes before you next week, this trouble will be entirely relieved. And the chances are that before that time the papules about the mouth and behind the ear will have begun to heal, and you will find, I hope, that the child's nose will be in a much improved condition.

The leading truth which I desire to impress upon you to-day and the lesson which I wish every one of you to carry away with you is the relation that exists between so-called scrofula and syphilis.

ORIGINAL ARTICLES.

CASES BEARING UPON CERTAIN MOOTED POINTS IN SYPHILOLOGY.[1]

By E. L. KEYES, M.D.,
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The Excision of Syphilitic Chancre.

Case I.—In 1884, a medical gentleman from a neighboring State called at my office to show me a small pimple situated upon the middle portion of the integument of the dorsum of the penis. This lesion was an acuminated papule, not capped by a pustule. The epidermis was unbroken. The color was slightly livid, the size about three-sixteenths of an inch at the base. There was no appreciable induration, indeed the lesion had no pronounced specific character. It was not painful. There was no inguinal glandular engorgement. The lesion had appeared during the afternoon of the day before I saw it. It was less than twenty-four hours old, and the patient ascribed it to suspicious sexual contact dating back two weeks. The integument of the penis and of the rest of the body was normal, the general health good.

A diagnosis was impossible, although the general appearance of the lesion suggested an accidental papule, and would have justified a favorable prognosis as to syphilis. Yet the patient was solicitous that something should be done.

Cocaine as a local anæsthetic was just coming into use, and I proposed to him excision with the aid of this agent. He gladly accepted the test. I washed the unbroken surface with a powerful solution of bichloride of mercury, one in two and a half, dried it, injected five minims of a four per cent. solution of cocaine under the skin, caught up the little papule with a full margin of the ample soft integument around and with scissors curved on the flat excised an abundant fold, including the lesion and considerable healthy tissue around.

Two catgut ligatures upon bleeding veins and three catgut sutures promptly finished the operation and left the wound absolutely dry. The patient had not experienced a particle of pain.

On his return home the doctor visited the suspected party and found that she had a syphilitic eruption.

The wound healed promptly by first intention. On the sixty-second day, after three or four days of premonitory fever, no medicine having been taken, the patient observed a mild roseola, which promptly disappeared. Fourteen days later he visited me. He had lost eight pounds in weight. In one groin were two indolent indurated glands, one in the other groin. The site of the excised chancre was soft and perfectly well, showing only a faint linear white scar. There was intense rheumatism, worse at night. There were scabs in the scalp, and the hair was falling. A profuse general papular syphilide covered the entire trunk, the face, and both the palms. Mucous patches abounded in the mouth. The eruption was brilliant and abundant, the patient pallid.

The disease had not been interfered with by any medical treatment, and was a plain instance of a sharp attack of syphilis which had not seemingly been in any degree modified by the excision of the initial lesion, although executed under unusually favorable circumstances.

This case I consider worthy of record because it fulfils the most exacting conditions for testing the question, still under consideration in the profession, as to whether syphilis is or is not already a constitutional disease when the chancre appears.

I do not care to tabulate statistics of the excisions practised by various operators. The résumé of Dr. Morrow,[1] in December, 1882, covered enough cases to allow generalization, and nothing which I have seen since that date has modified the conclusion he seemed justified in drawing; namely, that the ex-

[1] Read before the New York Surgical Society, April 14, 1885.

[1] Journal of Cutaneous and Venereal Diseases.

cision of chancre does not attenuate the poison of syphilis or modify the general symptoms.

Berkeley Hill's case,[1] it appears to me, carries more weight than any other reported before or since. A man tore his frænum during intercourse, at 4 A. M. At 3.30 P. M. on the same day—less than twelve hours after exposure—Hill destroyed the entire raw surface with fuming nitric acid. An eschar separated and the wound healed. A month later the cicatrix indurated and general syphilis followed.

My own opinion has been strongly opposed to the belief that local excision of chancre would prevent or modify general syphilis. I have offered the treatment to many, but as I never felt conscientiously at liberty to promise any advantage as a result of the operation my proposition has been declined. I would not have operated in this case except to test the cocaine, and because the patient, being a physician, earnestly desired it.

My case is quite analogous in its history and result to one reported by T. W. Taylor, in which[2] a papule was excised upon the day on which it appeared—with no advantage to the patient, whose general symptoms came out in two weeks. It is on a par with others in which early excision was practised in vain (Mauriac, forty-eight hours).[3]

I have recently also encountered another case in point (unpublished).

Case II.—X., aged 37, came to me in January, 1885, stating that in November, 1883, he noticed a small chancre on the penis. This was excised on the first day and the wound promptly healed. In six weeks he had a general roseola. He is now in his second year, having had numerous eruptions and been plentifully treated in various ways, including forty-five grain doses of the iodide of potassium three times a day, and a course of eight weeks at the Hot Springs, during which time ten ounces of blue ointment were rubbed into him. He came to me for some small gummatous tubercles upon the face, and is still under treatment. In this instance surely the excision did not favorably modify the intensity of the disease.

A medical friend, who wishes to be nameless, has recently reported to me a case of excision within twenty-four hours of the appearance of the lesion, in which general symptoms (roseola) appeared upon the thirty-second day. In other words, it has not been my good fortune to meet any case in which excision was practised with a favorable result.

I think it not difficult to understand how apparent success may follow excision, when we remember the multiple sources of possible error in diagnosis, and particularly is this the case in Germany, where the best results are claimed (thirty to fifty per cent.), for here the advocates of excision are all unicists (notably Anspitz and Kaposi), and are doing their best to return all primary venereal sores into that chaos from which Bassereau and the French School have endeavored to deliver them.

[1] Venereal Diseases, 1883, p. 310.

[2] Syphilis and Local Contagious Disorders, Hill & Cooper, 1881, p. 76.

[3] Ann. de Derm. et de Syph, July, 1881, p. 523.

The sources of error to which I refer are:

1. Inflammatory induration of lesions not syphilitic.
2. The small ulcerated gumma of the penis.
3. Non-specific sores which resemble the infecting chancre.
4. Cases of delayed syphilis.

I need not cite instances of the first two classes mentioned above. We are all familiar with the local sore of unknown incubation, with a hardness so nearly typical that we cannot ignore its peculiar quality, yet where observation without treatment has proved the absence of any true venereal taint.

The localized gumma commences as a tubercle under the skin, has all the essential hardness and sometimes the inguinal indolent adenopathy. Its physical characters might deceive any one. It may come upon one in seemingly vigorous health and be the only lesion present. The patient may have forgotten his old syphilis, the last symptoms of which occurred perhaps ten years before. I have had more than one such case.

If now this individual has had suspicious sexual contact a month before the sore appears, he is very apt to be considered a case of reinfection. These localized gummata (pseudo-chancres) have a marked partiality for occupying the site of the original chancre, but this is not an invariable rule.

Of the third class—a sore resembling, but not being a specific ulcer in any poisonous sense—I have seen a number of examples. The most striking is the following. I have no theory upon which to explain it, but can affirm that I have never seen a more typical excoriated induration as a starting point of syphilis than was this simple inflammatory hardening.

Case III.—A young man came to me about two years ago with a tight foreskin and a contracted preputial orifice, from which a moderate amount of pus exuded. In the substance of the prepuce at about its right lateral centre, was a hard disk with clearly defined margins, insensitive, giving to the fingers about the feel one would expect to get from a disk of gutta-percha set into the foreskin. The patient could retract the foreskin formerly, and assured me that he had seen an ulcer on the inner surface of the hard spot so long as he could expose it to view, which of late had become impossible. The sore had appeared one month after intercourse. There were two or three indolent indurated glands in each groin.

This boy had consorted only with one female. She would not allow herself to be examined. She shared her favors among a set of young men, of whom several had been patients of mine for various disorders not syphilitic. These young men continued to consort with this woman before, during, and after the date of the alleged exposure in this case. All remained well excepting one, who acquired mild urethritis from intercourse too near the menstrual epoch. After a local treatment of several weeks I was enabled to retract the foreskin and inspect the lesion. It proved to be a simple livid excoriation upon a sharply defined induration. There had been no true ulcer. The whole physical appearance of the lesion was that of infecting chancre. I concluded that it must be due to mediate contagion.

No internal treatment was ever given. I watched

the case several months. The excoriation healed; the induration disappeared. No symptoms of syphilis followed.

This case is unique in my experience. I believe it to have been an unusual form of simple inflammation, traumatic in origin, due primarily to the tightness of the foreskin.

If it was syphilis, it was delayed syphilis.

I have seen a number of other traumatic lesions which might have been mistaken for the starting-point of syphilis, but nothing so seemingly typical as this case. In any event such cases are not common.

Delayed Syphilis.

Case IV.—A gentleman of 37 called upon me in September, 1883. He stated that he had had an ulcer on the penis in August, 1880, which appeared three months after exposure. This was the first venereal symptom he had ever observed. The sore was treated locally. It healed within two weeks. No symptoms followed.

In April, 1883—more than two and a half years after the alleged chancre—he fell into a sort of stupor, with fever and rheumatic pains, especially of the feet. After three weeks a spotted eruption came out upon his palms, which was pronounced to be syphilitic. Then his throat got sore, ulcers appeared in the mouth, the hair fell out freely, and, having been taking antisyphilitic treatment already for a few weeks, he became alarmed, and went to the Hot Springs. There he was treated actively. In July he had some ocular trouble, which improved at the Hot Springs. At my examination I found two characteristic palmar desquamating spots, and some mucous patches in the mouth.

This case, of course, allows a suspicion of a new infection in March, 1883; but the patient, who was absolutely free in giving his history, disclaimed it.

Case V.—X. aged 30, visited in November, 1883, stating that five years previously he had a local set of lesions on the penis for which he received no internal treatment. He remained well for one year. Then painful lumps appeared under the scalp, the throat ulcerated, the bones of the nose came away, the middle ear suppurated, rupial eruptions, scaling spots and papulo-squamous patches came out upon various parts of the body, then he got heart-flutterings, dyspnœa, vertigo, dyspepsia. The patient denied any venereal malady up to the time of the sores first mentioned above.

Anything so irregular as these two cases, of course, is a matter of suspicion, but the unexpected element in syphilis is so common, and irregularities from the normal type so constant, that I think it possible to accept them as instances of irregular or delayed syphilis.

These last described forms of disease capable of causing error in the diagnosis of syphilitic chancre are very uncommon, the first two inflammatory hardening of chancroid and local cutaneous gumma resembling chancre, are very common. Whether it is possible that observers so renowned as the German advocates of the excision theory could be mistaken in their diagnosis in such a large percentage of cases I cannot affirm. It seems improbable, yet it is more improbable that success should follow an excision practised upon a chancre several days old with the inguinal glands already involved, and, as has been claimed, that failure should occur in cases like those I have narrated at the beginning of this article.

Mediate Contagion of Chancroid.

The mediate contagion of true syphilis is notoriously not impossible, several authentic instances of it being recorded. I do not remember to have seen the report of any case of the mediate contagion of chancroid, and therefore bring forward the following:

Case VI.—X. aged 20, visited me in August, 1883, with an ulcer upon the penis behind the corona glandis having a hard base. There was one hard gland in the groin, slightly sensitive. His history was as follows: After two months of continence he had cohabited with a woman who had formerly been syphilitic, but had remained free from symptoms for five years. This woman was the mistress of a friend.

On the morning following intercourse the patient noticed an excoriation, which, on the third day, swelled up and discharged. It was then burned by a physician, whereupon the base hardened, and the ulcer began to grow larger. I saw it on the twentieth day, when it had all the appearance of chancroid with an inflamed base.

Five days after exposure the patient had the woman examined. She was declared sound, except as to leucorrhœa. I pronounced the sore a probable chancroid, and urged a further search as to cause. The search developed the following facts: On the night before the day on which my patient had cohabited with the woman she had had intercourse with another person and had remained partly intoxicated, and lying quiet thereafter until my patient had cohabited with her. The man in question was followed up and found to have a well-marked chancroid under treatment. This sore he had possessed at the date of intercourse with the woman. My patient's ulcer healed after six weeks. No syphilis followed. The woman did not acquire any sore, nor did the man who habitually lived with her.

The Hutchinsonian Teeth.

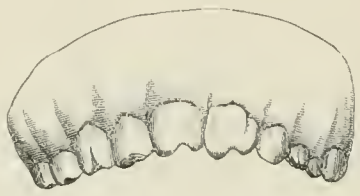
The test-teeth of inherited syphilis are the two central, permanent incisors, in the upper jaw. They are known as the Hutchinsonian teeth, after the distinguished Englishman who first accurately described them.[1] The broad, rather shallow groove in the cutting-surface is the feature which distinguishes them. These teeth are often convergent or divergent, but may be straight, and they are often narrowed on the cutting-edge, but not necessarily so.

I have here two casts of the upper set of teeth, showing the characters usually believed to indicate inherited syphilitic disease (Figs. 1 and 2). I present with them Hutchinson's original plate, and a photograph of the woman whose teeth are pictured in Fig. 2, showing the macular syphilide which was

[1] Illustrations of Clinical Surgery, London, 1876. Fascicules III., Plate XI.

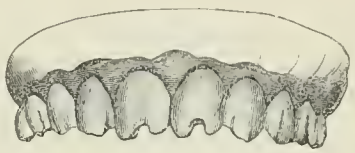
upon her when I first saw her. The patient whose teeth are represented in Fig. 1, had inherited syphilis.

Fig. 1.



The patient possessing the teeth represented in Fig. 2 showed no sign of ever having had inherited dis-

Fig. 2.



ease, and came to me with fully marked secondary syphilis, which she had acquired from her husband. I think the case is interesting, as illustrating the fact that teeth very closely, if not identically, resembling the test-teeth of Hutchinson, may be possessed by a patient who has not inherited the disease. The cases are briefly as follows:

Case VII.—To this case belong the teeth of Fig. 1. One of the outer incisors was crowded out of line by the contraction of the jaw, and appeared behind the alveolar border. It is not represented in the cast, which was taken by the husband of the patient, a plasterer by trade.

In 1878 I first saw this patient, 14 years old, with a large gumma in the right axilla, then ten years old. Her mother, who brought her, had an old syphilitic ulcer on the leg, at the bottom of which was a necrosed portion of the tibia. The child had also a large node on the left tibia. She had strabismus and bad headache, with some scabs in the scalp. When five weeks old an eruption came out over the entire body, nose, and the feet, and she has suffered from mottled, livid, scaling spots, and rheumatic pains ever since. Her treatment had been more or less constant since birth. The child was plainly a victim of inherited disease. The mother was frankly syphilitic, and had miscarried once and produced two dead children before the birth of this child. The father was also syphilitic (ulcers and nodes).

This patient had a variety of disorders, among which was sudden blindness for half an hour at a time; but she recovered of everything, even her strabismus, under treatment; married at the age of 17; produced a healthy child; then took to drink; developed a well-marked tubercular syphilide on the arms, with ulcers on the scalp; miscarried five times in succession, and finally died.

Case VIII.—To this case belong the teeth of Fig. 2. Mrs. X., aged 31, visited me in February, 1884, showing flat, mottled patches of a recent papulo-erythematous syphilide, covering the trunk and extremities, with a few spots on the face. She related that her husband had a sore upon his penis, and had given her a similar ulcer upon the vulva some weeks previously. The sore was well at the date of her visit to me. She showed also mucous patches in the mouth, indurated glands, fall of hair, etc., and the teeth as seen in the cast.

Her father and mother are alive and well, she says. She herself has always been healthy. She has no scars, no syphilitic countenance, no history, and no evidence of any inherited disease. She is robust and well-formed; has had five healthy children, and laughs at the idea of having suffered from any inherited malady. Actually she has recent syphilis.

In March, 1885, one year later, she returned—still under treatment at the hands of her own physician—and presenting well-marked clusters of tuberculo-squamous syphilide in patches upon various parts of the body. The photograph shows the appearance of the first eruption on the chest.

The Administration of Iodide of Potassium in Milk.

I wish to add a word in favor of milk as a most suitable vehicle in which to administer the iodide of potassium, notably in cases in which large quantities of the drug have to be used.

Several years ago a patient first called my attention to the fact that he could take his dose of iodide of potassium in milk without minding the taste, which otherwise was very offensive to him.

I adopted the suggestion at once, and found it of great service in many cases. Ten grains or more of the iodide in a gill of milk (cold) make a very palatable drink, and impart only a mild, metallic taste to the fluid, which most patients find not at all disagreeable. I have used this method in a routine way with the happiest result in several instances in those desperate cases in which some portion of the nervous system gives out, food is unpalatable, or cannot be taken, and the indication is, disregarding all else, to push the iodide rapidly to the point of tolerance. In such a case no time can be lost, and a fixed routine system, which shall accomplish all the needs of nourishment, as well as medication, is a very valuable factor in the treatment. I shall cite one illustrative case out of a number in which I have used the method:

Case IX.—In the summer of 1883, a gentleman was referred to me from another city, with precocious malignant syphilis (rupial in type), and a feeble stomach. He could not digest the iodides well, as they deranged his stomach, and caused disfiguring acne, a twenty grain dose of the iodide of sodium being too much for him.

His symptoms gradually disappeared and he returned home, and for about a year did more or less well and badly, until his physician, one of the most thoroughly competent gentlemen in the profession, concluded that the antisyphilitic treatment was keeping his stomach so constantly deranged, that he was suffering more from treatment than the disease. He

therefore omitted medication for a time, and again sent the patient to New York to see me.

He came to the city, and remained in his hotel two days, not calling upon me and feeling rather better, but being much excited at night and sleepless. His only active symptom was one ulcer on the arm. On a given day at noon, while lying quietly on a lounge in his room, he got up to cross the floor. Having accomplished his object upon the other side of the room he turned to go back, but when half-way across the floor, without warning or pain, he suddenly fell in a heap upon the floor (his age was 36), without loss of conciousness, and found himself unable to get up or to speak. I saw him shortly afterward, and found him totally paralyzed upon the right side, and aphasic. He had no heart disease of any kind, and the only premonition of the attack had been a certain recurring numbness of the fingers and toes of the *left* side during each of several days before the attack. I procured a day and night nurse and ordered quiet, the cessation of all habitual food, drink, and medicine, and instructed the nurses to give him each hour, night and day, ten grains of the iodide of potassium in a claret glass of milk. He took it all, nearly three quarts of milk and 240 grains of the iodide of potassium in the first twenty-four hours. A laxative was the only other thing allowed. Increased the daily dose two drachms each second day, and after a week employed also inunctions of mercurial ointment which I pushed rapidly until the gums were mildly touched.

During the second week his daily dose reached ℥iss of the iodide. He took no food whatsoever except the milk in which his medicine was given, and he took also an occasional laxative. His tongue cleared, the acne disappeared from his face, early in the second week he began to move his arm and leg spontaneously. Electricity and massage were now added, and in one month from date of the attack he left the city walking with a cane and dragging his foot slightly, but talking about as naturally as ever, and looking exceedingly well. The daily dose was then ten drachms taken in four separate portions, for as he got better I gave up the hourly medications, and allowed him to eat.

The patient is still under observation, doing well, taking ten drachms of the iodide a day which he has been continuing for several months, and promising nearly, if not quite, a perfect recovery.

1 Park Avenue, New York, April 14, 1885.

COCAINE IN DIPHTHERIA.

By HOWARD A. KELLY, M D.,
of Philadelphia

The following results, which I have obtained from the use of cocaine in diphtheria and diphtheritic sore-throat, are uniform and remarkable:

Case I.—Jan. 21st, Emily C., age 11, complained of feverishness for two days, and for one day of sore-throat. She has anorexia and slight prostration. The fauces are red and engorged; the tonsils enlarged, nearly touching; they are both covered with a thick, pultaceous, gray mass. A diaphoretic mixture was given, and a four per cent. solution of hydrochlorate of cocaine applied to the throat every two hours. The false membrane began to melt immediately, and in five days she was well, and the throat normal.

Case II.—George T., age 13, has had a headache for several days. This morning his throat began to pain him, and in the afternoon he was feverish. Both tonsils are enlarged and red; on the right tonsil is an elongated, oval patch of ulceration, one-half inch long.

Cocaine was applied as in preceding case, and in two days the throat was well; and the prostration, which had been marked, disappeared gradually after.

Case III.—Mary F., age 19, hump-back, has felt weak and prostrate for two days. She has a rapid, feeble pulse; fever, and an enlarged tender gland under the right ear and sore-throat. The pharynx is engorged, and of an angry-red color. The tonsils are both enlarged, and on the right tonsil is an oval patch of ulceration a half inch long.

Cocaine, applied as in the preceding cases, cured the inflammation in twenty-four hours, and completely removed all trace of ulceration, except a thin, crescentic ring, which formed the anterior border of the ulcer.

Case IV.—Mr. O'C., a very intelligent druggist, came into my office, a few evenings since, looking very wretched with a stiff neck, and in a hoarse voice informed me he was "all broken-up." The pulse was quickened; temperature 102°; the pharynx and fauces very red. On the left tonsil was an elongated, whitish ulcer, half an inch in length. The secretions were constantly accumulating in the throat, and he suffered severe pain in clearing it. Cocaine, used as in the other cases, relieved the pain in hawking, cured the ulcer in one day, and on the second day the patient was feeling perfectly well.

In each of these cases, except the third, in which cocaine alone was used, some constitutional measures were employed, as I have found that they always add greatly to the patient's comfort, although apparently exerting no control over the duration of the disease. For this purpose I give morphine in small doses, or bromide of potassium, or nitrate of potassium, with sweet spirits of nitre, concentrated tincture of gelsemium, or liquor potassæ citratis.

Dr. Schools, of this city, informs me that he has had a similar experience with the drug in a case like the first I have detailed.

In the so-called cases of diphtheritic sore-throat with erosion I feel confident the cocaine is of signal value.

MEDICAL PROGRESS.

Rheumatic Phlebitis.—Dr. Letulle, in the *Gazette Médicale de Paris*, reaches the following conclusion relative to rheumatic phlebitis:

1. Rheumatic phlebitis is one of the rare complications of acute articular rheumatism.

2. It affects by preference the veins of the lower extremities, and more particularly those of the left leg.

3. Stasis of the blood (the same as for phlegmasia alba dolens) seems to be one of the most active of de-

termining conditions which favor the formation of phlebitic clots.

4. The coexistence of cardiac complications and anterior pleuro-pulmonary disease (conditions often met) seems to play an important part, though secondary in increasing the intravenous blood-pressure.

5. The pathogenic influence of primitive inflammatory lesions (antecedent endophlebitis) appears disputable.—*Revue Médicale*, March 14, 1885.

Hydrochlorate of Cocaine as an Adjuvant to Catheterization.—Dr. De Larabrie, in the *Gazette Médicale de Nantes* of March 9, 1885, says: Since the discovery of the anæsthetic effects of hydrochlorate of cocaine upon the ocular conjunctiva, its field of usefulness has constantly extended. Besides the well-known effects upon the pharynx, stomach, and vagina, it also can be used with great advantage in operations upon the urethra. Knopp, by experimentations upon animals, first demonstrated this fact. The following clinical evidence justifies the conclusions reached, and gives foundation, in fact, to recommend its use in urethral surgery. The case is the following: A young man, afflicted from infancy with nocturnal incontinence of urine to the present time, has resisted all means employed to remedy the condition. Galvanization was at last resorted to according to Guyon's method.

The patient was constitutionally weak, and presented at the same time some constriction of the urethra along with unusual sensitiveness of the canal. When catheterization was practised the first time, the procedure was accompanied by extreme pain, which seemed greatest when the instrument reached that portion of the urethra midway between the glans penis and the scrotum. Urethral spasm also was produced, and was followed by oozing of blood for twenty-four hours. Urination during the following days was frequent and painful.

All efforts at treatment were alike painful, and finally resort was had to cocaine, and previous to each attempt to introduce the sound a one per cent. solution of the drug was injected into the urethra.

On first trial the injection was repeated after a few minutes, and the sound was tolerated without the least pain. There existed, in fact, absolute insensibility, which lasted for about two minutes, a short but sufficient time to permit the introduction of the sound and exactly locate the constricted portion of the urethra. Since this time each application of electricity has been preceded by injection of cocaine, and subsequently the bladder has been entered without pain.

It is worthy of remark that while a five per cent. solution is required to anæsthetize the conjunctiva, and though Schrotter, of Vienna, uses a twenty per cent. solution for operations upon the larynx, yet for the urethra a one per cent. solution is sufficient to produce complete anæsthesia.

Iodoform Dressings.—Dr. V. Mosetig-Moorhof, in a paper read at the International Congress at Copenhagen, on the efficiency of iodoform dressings, reaches the following conclusions:

1. Iodoform is applicable as an antiseptic and aseptic dressing to all wounds, whether old or recent, deep or superficial. It is specially to be recommended in those wounds which, for any reason, cannot be carefully kept under observation, or in which the extensive apparatus necessary for antiseptic precautions is wanting.

2. Pure iodoform is also applicable to all such wounds as will heal by first intention. For this purpose the fine powder, lightly strewn over the wound, is the best form for use, and will exercise no opposition to the prompt healing of the wound.

3. Iodoform is specially to be recommended in the treatment of fungous or recent wounds attributable to local tuberculosis, and for such purposes far excels all other antiseptics hitherto recommended.

4. The application of the iodoform dressing is simple and cheap. Within reasonable limits it is not as dangerous as are some methods of antiseptic dressing.—*Medicinische Chirurg. Centralbl.*, March 27, 1885.

Antiseptic Treatment of Erysipelas.—M. Verneuil, in a communication to the Académie de Médecine de Paris, after giving statistics in proof of the efficiency of the antiseptic treatment of erysipelas, concludes his observations as follows:

1. Erysipelas is an infectious, contagious, and auto-inoculable disease, which, for various reasons, it will be difficult for a long time to suppress.

2. In great centres erysipelas, essentially endemic, is propagated from two sources—externally from the city, internally from the hospital—which reciprocally infest each other.

3. It is possible to prevent, to a great extent, the appearance and extension of the disease by precautions against auto-inoculation, by antiseptic dressings, by isolation when it is possible; and, in default of this, by creating about the patient a circumscribed antiseptic atmosphere.

4. The diminution of erysipelas in the surgical wards not only has for its effect the sanitation of these wards, but conduces to an improved sanitary condition of the entire hospital, and of the quarters tributary to the hospital, as is shown by the considerable diminution of erysipelatous admissions from without.

5. If the prophylactic and curative resources against erysipelas, of which science has proved the efficiency, are rigorously and generally applied in city and hospitals, it is possible that erysipelas may become as rare as pyæmia, and, perhaps, disappear as completely as hospital gangrene.—*L'Abeille Médicale*, March 2, 1885.

Pseudo-paralysis produced by Carbonic Oxide Gas.—At a meeting of the Royal Academy of Medicine of Torino, lately held, Professor Morselli presented a communication from Dr. Giuseppe Musso, on a new form of general pseudo-paralysis by slow poisoning by carbonic oxide.

All the forms of pseudo-paralysis hitherto recognized are due to the effect of alcohol, lead, or syphilis, but Dr. Musso now shows that general pseudo-paralysis may be developed by the incomplete combustion of carbonaceous substances in confined and illy ventilated apartments.

At the same meeting of the Society was reported a case in which trephining was performed on January 1, 1885, for epilepsy occasioned by a depression of the skull, produced four years ago by a blow. Cure resulted in a few days, and the general, as well as the mental, condition of the patient improved noticeably

after the operation.—*Gazzetta degli Ospitali*, March 15, 1885.

Osseous and Articular Tuberculosis.—Dr. Ferrari, in a recent study of osseous and articular tuberculosis, has reached the following conclusions as to this special manifestation of tubercular disease:

1. The slowly developing fungous processes of the bones and articulations—generally designated as white swellings, etc., are manifestations of tubercular periostitis, osteitis, osteomyelitis, or synovitis.

2. Tuberculosis of the bones is manifested under two different forms: *a*, the circumscribed, *b*, the infiltrated, variety.

3. Both these forms are distinct from tubercular osteitis and osteomyelitis.

4. In the infiltrated variety, designated *acute tubercular osteitis*, the rapid destruction of the osseous tissue is histologically distinct from the rapid development of tubercular follicles which, without passing through the different stages of the development of tubercle, undergo a rapid, cheesy degeneration.

5. In fungous synovitis tuberculosis is manifested under two forms, one of which is distinct from the development of tubercular follicles; the other from the diffuse infiltration of lymphoid cells, in the midst of which giant cells appear.

6. In the fungous, osseous, or synovial growth the specific bacilli tuberculosis are frequently found, but not in such abundance as in other parts affected with tubercular disease.—*Gazzetta degli Ospitali*, March 22, 1885.

The Transplantation of Muscle and Regeneration of Muscular Fibre.—Dr. Eduardo Salvia, in an experimental study upon the transplantation of muscle, and the regeneration of muscular fibre, sums up the results obtained as follows:

1. It is possible to transplant a portion of the muscular tissue of one animal into that of another, difference of species having no effect upon the result.

2. The transplanted portion of muscle may unite completely with the muscle with which it is brought into relation by first intention. To obtain this result, it is necessary that the transplanted muscle completely fills up the void made by the retraction of the excised muscle, and that the operation be conducted under strictly antiseptic conditions.

3. The union between the transplanted muscle and that of the animal upon which the operation is performed takes place from the formation of new muscular fibre, which is produced without leaving trace of the original points of separation.

4. The muscular fibre which is introduced gradually loses its own special anatomical peculiarities, and acquires those of the living animal, to the degree that after a time the most careful microscopic examination is unable to detect a difference between the original and acquired muscular tissue.

5. The function of the muscle after its introduction in a relatively short period is perfectly restored, without the slightest tendency to weakness or stiffness.—*Gazzetta degli Ospitali*, March 22, 1885.

Nephrectomy for Encephaloid Tumor of the Kidney.—At a meeting of the Académie de Médecine de Paris, held March 30, 1885, M. Pèan presented a patient upon whom he had performed the operation of nephrectomy for encephaloid disease of the kidney. The patient, previous to the operation, was cachectic in the extreme, and, though advised against undergoing operation, insisted upon its performance.

M. Pèan proceeded as follows: The tumor was exposed by an incision in the median line, extending from the epigastrium to the pubis. The mesentery was incised, and the numerous dilated veins treated by compression.

The tumor was then found to be surrounded by a capsule, which was, to a certain extent, removable by the fingers. Before continuing the removal of the capsule further, the tumor was taken away by degrees in small portions, partially with the fingers and partially with a spatula. This necessitated the compression of numerous arterial and venous trunks.

The operation was continued till the whole mass was removed. The diseased tissue was darkish green in color, ecchymosed in spots, and contained throughout its mass granular calcareous nodules. It was adherent, moreover, to portions of the small intestine—the mesentery, and to some of the vascular trunks—to separate it from which required great care.

Sufficient progress had now been made to discover that the growth had its origin in the right kidney, of which the pelvis and the ureters were in a state of fatty degeneration. The kidney and its appendages were then removed, the vessels and ureters having been cut between two ligatures.

The mesentery was then united by three ligatures, which were left in the abdominal cavity. The operation lasted one hour. The tumor weighed more than twelve pounds. In three weeks the woman was convalescent.

A microscopic examination, by M. Robin, showed the tumor to be an epithelioma of the kidney.—*L'Union Médicale*, April 2, 1885.

Naphthalin in the Intestinal Catarrh of Children.—Dr. Ph. Pauli, in the *Berliner klin. Wochenschr.*, of March 9, 1885, publishes an account of his clinical observations concerning the use of naphthalin in the intestinal catarrh of children.

The ages of the children—a history of whose cases is given—vary from one and a half to five years, and in all the drug seems to have been very successfully used.

The quantity of naphthalin administered varied with the age of the patient, and ranged from a grain and a half to fifteen grains daily. In one case, in which the remedy seemed not so prompt as in the others, increasing the dose until the feces had a strong odor of naphthalin had the desired effect. Dr. Pauli remarks that, for prompt action, doses that can be so recognized are necessary.

In the cases treated, with one exception, there was no return of the disease, and in this instance it was insignificant. In two cases of the diarrhœa of phthisis the administration of naphthalin had the effect of diminishing the number of stools, but, on discontinuing the remedy, the diarrhœa returned and persisted.

Bromohydrate of Quinine and Valerianate of Caffeine in Malarial Infection.—Dr. Martinez Cerecedo, in the *Gaceta de los Hospitales*, Anno III.

N. 55, publishes the results obtained by him in the treatment of serious forms of intermittent fever by the association of the bromohydrate of quinine and valerianate of caffeine. He claims, as a result of comparative trials of the sulphate and bromohydrate of quinine, the superiority of the latter in the following respects:

a. A greater activity in smaller doses.

b. A gradual sedative action upon the nervous system.

c. The power of abating, and finally of removing, all tendency to vomiting, — a property worthy of special consideration.

d. In the ease with which it gains mastery over the malarial infection.

e. In that the ill-effects of the drug are less marked, or indeed imperceptible.

f. In that it does not irritate the stomach, or produce diarrhœa.

g. In that hypodermatic injections are less frequently required.

h. In that relapses and returns of the fever are less frequent under its use.

i. Because, by associating the bromohydrate of quinia and the valerianate of caffeine (fifteen grains of the former to eight of the latter), many quotidian forms of the disease may be subdued which do not yield to the sulphate in much larger doses.

j. Because the comparative cheapness of these drugs renders their employment less onerous to patients in moderate circumstances.

Ovariotomy.—Prof. Giovanni Calderini recently performed two difficult operations for ovariotomy at the Obstetrical and Gynecological Institute of Parma. In the first case there was an enormous left tubo-ovarian cyst, which presented extensive peritoneal adhesions.

In the second a bilateral ovariotomy was performed. The left ovary contained a cyst largely adherent to the peritoneum, parietes, and pelvis. The right ovary also had undergone cystic degeneration, and was the size of a hen's egg. Notwithstanding the difficulty and extent of the operation in each case, they were successfully concluded, and both patients are convalescent.—*Gazzetta degli Ospitali*, March 25, 1885.

Nephrectomy.—Dr. Vincenzo Dattilo, on the 8th of March, 1885, performed a difficult operation of nephrectomy for suppurative pyelo-nephritis. The walls of the cyst could not be removed, owing to extensive adhesions to the lumbar muscles, the diaphragm, and peritoneum. They were accordingly secured to the edges of the external wound by interrupted sutures. The cyst was previously evacuated eight times with Potin's apparatus, four pints of a purulent fluid being obtained at each evacuation. The operation, which was preceded by a ninth puncture with Potin's aspirator, and by free exsection of the twelfth rib, lasted forty minutes, and was conducted under strict antiseptic precautions. The highest temperature recorded subsequent to the operation was 100.4° F. The patient is rapidly recovering.—*Gazzetta degli Ospitali*, March 25, 1885.

Resection and Suture of the Median Nerve.—M. Surmay has recently published an interesting case of resection and suture of the median nerve, in which immediate union resulted in the reëstablishment of the function of the nerve, except sensibility to pain and temperature. From the result he draws the following conclusions.

1. That simple hypertrophy of the neurilemmar tissue between the primitive nerve fascicles may determine the abolition of the functions of the nerve.

2. That after resection the union of the two ends of the nerve may be followed by immediate reunion.

3. That this reunion may be accompanied by the immediate reëstablishment of the functions of the nerve.

4. That in the restoration of the function of the nerve general sensibility, tactile sensibility, and sensibility to pain and temperature do not return simultaneously, but in the following order: sense of touch, general sensibility, ability to appreciate pain, and, finally, to distinguish temperature.—*Revue Thérapeutique*, April 1, 1885.

Cholecystotomy in the Treatment of Biliary Calculi.—Prof. Jules Bœckel, in a paper read before the French Surgical Congress, held April 6 to 12, 1885, reaches the following conclusions as to cholecystotomy as a method of treatment of biliary calculi:

Cholecystotomy is or is not grave as depends upon (A) the presence or (B) absence of biliary fistulæ.

A I. In the first case (existence of a fistula having demonstrated or given cause to suspect the presence of one or several calculi), operative interference is demanded.

II. Although cure is sometimes spontaneously effected, there is great advantage in operating opportunely.

III. Early intervention assures and hastens the cure by preventing accidents due to incessant draining of the bile.

IV. The operation is one of great simplicity and remarkable benignity, owing to the adhesions which unite the gall-bladder to the abdominal wall; even when it is necessary to open the peritoneum, cholecystotomy, practised under these conditions, may be considered harmless when done under antiseptic precautions.

B I. In the second case (absence of fistula and adhesions), the operation is much graver, and its indications are much more difficult to grasp.

II. Primarily, the diagnosis must be established and the cause of obstruction fully ascertained, in order to avoid an operation of doubtful utility.

III. When the history, progress of the disease, examination of the patient, and, above all, *the presence of a biliary tumor*, and *exploratory puncture*, reveal the presence of biliary calculi, cholecystotomy, opportunely performed, seems to be indicated.

IV. When the diagnosis is well established the operation should be done as early as possible, to obviate the serious, or even fatal, complications which may result from delay.

V. In all other cases the operation is in itself too grave, and its results too uncertain to justify its performance.

VI. At present our knowledge is not sufficiently definite to decide as to the relative merits of cholecystotomy or cholecystectomy. To solve the problem, additional data must be collected.

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NEPHROLITHOTOMY.

MR. CHIENE, of Edinburgh, narrates, in the *British Medical Journal* for February 7, 1885, a successful removal of a calculus, weighing forty-eight grains, from the otherwise healthy kidney of a man twenty-nine years of age. The chief symptoms were long standing, intermittent, and severe pain in the loin, and bloody urine. As soon as the kidney was reached by the ordinary incision, an elevation was detected in the substance of its lower half, which proved, on exploration with a needle, to be a stone. The parenchyma of the organ was scratched through with the finger-nail until the concretion was reached, the wound enlarged with dressing forceps, and extraction effected. There was considerable oozing of blood; two drainage tubes were inserted, and antiseptic dressings were applied. At the expiration of rather more than three months, the relief was complete.

DR. SYMONDS and MR. HENRY MORRIS have each recorded in the *Lancet* for March 7, 1885, an equally gratifying result; and on last Wednesday, at the meeting of the American Surgical Association, Dr. Tiffany, of Baltimore, read a paper on renal lithotomy, in which he gave the details of a successful removal of a stone weighing five hundred and fifty-six grains, it being the largest on record.

In 1869 Mr. Annandale advocated nephrolithotomy. Simon, in 1871, suggested acupuncture of the exposed organ, with a view to detect the concretion; and Dr. Gunn, of Chicago, and Mr. Durham, in 1872, were the first to cut down upon the kidney in the expectation of finding a stone. It was, however, reserved for Mr. Henry Morris, in 1880, at the suggestion of Dr. Coupland, to perform the first formal nephrolithotomy, and, in the five years which have elapsed since its successful introduction, it has established for itself the reputation of being an eminently safe and rational procedure.

In connection with the cases of Chiene, Symonds, Morris, and Tiffany, and an able and instructive address on "Some Points in the Surgery of the Kidneys," recently delivered by MR. MORRIS at the Medical Society of London, and published in the *British Medical Journal* for February 14, 1885, we propose to discuss the operation of nephrolithotomy, and briefly compare its results with those attained by nephrectomy for calculus alone, and with those secured by nephrectomy and nephrotomy for calculus associated with other lesions.

At the outset it should be stated that by nephrolithotomy is meant, as declared by Morris in his original paper on the operation, which may be found in the *Transactions of the Clinical Society of London*, vol. xiv., incision of the kidney simply and solely for the removal of a renal calculus, the organ not being dilated by pus or urine. For these reasons, we omit the cases of Haward, Golding-Bird, and Jones, of Manchester, which are usually referred to as examples of the procedure, as pus was present in all. The statistics are derived from a paper read at the recent meeting of the American Surgical Association by Dr. S. W. Gross, many having been gleaned by him from private sources of information.

Nephrolithotomy has been resorted to in 21 cases, the operators having been Thornton in 3, Morris and Beck, each in 2, and Butlin, Bardenheuer, May, Howse, Hill, Symonds, Anderson, Godlee, Elder, Cullingworth, Pepper, Chiene, Rouse, and Tiffany, each in 1. Of the entire number, 2, or 9.52 per cent., died; the patient of Cullingworth from the blocking of the opposite ureter by a stone near its vesical orifice, while the patient of Pepper expired suddenly, some days after, from causes which were not connected with the operation. Thornton's cases were by the combined ventral and lumbar incision, the kidney having been reached in the remainder through the loin. In the cases of Butlin, Anderson, and Cullingworth, the stone was removed through an incision in the pelvis of the kidney; in the others, it was extracted through an opening in the substance of the organ. In the case of Bennett May, the calculus weighed nearly an ounce, and its extraction was followed by profuse venous bleeding, which was, however, speedily arrested by pressure. In only two other instances was this accident met with, but the loss of blood was readily and easily controlled.

From existing experience it appears that the extraction of a calculus from an otherwise healthy kidney is an operation almost without danger to life. All of the recoveries were prompt and perfect, except

in the first case of Morris, in which a suppurating sinus still persists five years subsequently. In three of the cases, the stone was removed through the pelvis of the kidney, on which account Mr. Anderson suggests the term pyelolithotomy, to distinguish the operation from the ordinary one in which the concretion is removed through an opening in the parenchyma of the organ. This, however, is an unnecessary complication of nomenclature, and no special stress need be placed upon any supposed advantages to be derived from the site of the opening, as the surgeon will cut or scrape through the tissues which cover the stone. Under no circumstances should any but the lumbar incision be resorted to, unless there be doubt as to which kidney is involved. Under these circumstances, laparotomy is proper, and the kidney and ureter should be examined on both sides. Had Mr. Cullingworth suspected the presence of a stone in the opposite ureter, an exploratory median incision and intraperitoneal ureterotomy would probably have saved his patient.

With such an excellent record, it is remarkable that the operation has not been more frequently resorted to, and it is odd that only two cases have occurred outside of Great Britain. The uncertainty of the diagnosis in the earlier stages of renal calculus has, however, probably deterred many surgeons from performing it, since the symptoms are almost identical with those met with in commencing strumous kidney, and with those observed in persons with an abnormally acid urine, or of a gouty tendency, or who lead sedentary and indulgent lives. Hence, Mr. Morris is emphatic in stating that before a surgical exploration of the kidney, with a view to nephrolithotomy, is undertaken, symptoms which are regarded as characteristic of renal calculus shall have existed for some months, and still persist; and, secondly, that these symptoms have not yielded to ordinary treatment. As a rule, recurring attacks of renal colic, the presence of blood or pus in the urine, frequency of micturition, and the absence of prostatic or vesical lesions which can explain these phenomena, are held to be sufficiently characteristic symptoms. Experience has, however, demonstrated that they are not positively characteristic, since surgical exploration of the kidney has frequently failed to detect a calculus when these signs were pronounced.

With these symptoms before him, however, the surgeon is justified in making an exploratory operation. If a calculus be removed, the integrity of the organ is saved, and advancing suppuration prevented. If, on the other hand, a stone is not found, our present knowledge warrants us in stating that no danger will have been incurred. Thus, of 22 exploratory operations, of which 3 were done by Marcus Beck, 2 each by Morris, Lucas, and Annandale, and 1 each by Gunn, Durham, Lente, Golding-Bird, Barker, Barbour, Norton, Anderson, Fowler, Powell, Thornton, Hulke, and Lawson, all recovered, the kidney having been actually incised in three. More than this, the mere digital exploration of the organ has in some instances been followed by prolonged relief: first, by the securing of a mobile kidney in its proper place through the contraction which followed cicatrization; secondly, by causing cessation of the pain and renal irritation through division and stretching of the nerves of the lumbar region; thirdly, by taking off tension from a perinephritic inflammation; and, fourthly, by giving vent to a little pus after puncturing a scrofulous kidney.

In some of the failures, a stone was doubtless overlooked. Even when supplemented by acupuncture, the detection of a calculus is not always easy, as is shown by a case in which Mr. Morris recently removed an otherwise healthy kidney containing a concretion, which the repeated use of the needle had failed to discover. Hence, he concludes, and as we think very justly, that ordinary exploration with the finger and needle should not be considered a complete exploration, but that the kidney should be incised, after the failure of these measures, in order that its pelvis and calices may be thoroughly examined with the finger. This procedure will doubtless add to the risks of the procedure, and, it may be, subject the patient to the annoyance of a sinus or a urinary fistula, a contingency which is to be feared, if we may base an opinion upon the frequency of the formation of such a sinus or fistula after nephrotomy for calculous pyonephrosis, ordinary and strumous suppuration, and hydronephrosis, as they are met with in one-third of the recoveries.

Nephrectomy for calculus uncomplicated by other lesions has been done by Czerny, Kosinski, and Morris. Two of the operations were by the lumbar incision, and one by the ventral incision. Despite the fact that the patients recovered, the organ should never be removed for this condition. It may happen, however, that, even after incision, a stone cannot be detected, and that the patient's sufferings demand that extirpation be resorted to. Under these circumstances, a stone may be present, but the surgeon has the satisfaction of knowing that a useful organ was not sacrificed until all the means for the detection of the stone had been employed and failed.

That nephrolithotomy is a most judicious procedure in the early stage of renal calculus, is shown not only by the favorable results of the operation, but by a comparison with other operations performed after the concretion has given rise to more or less advanced disorganization of the kidney. Thus, of 20 nephrotomies for calculous pyonephrosis 9, or 45 per cent., were fatal, while of 23 nephrectomies for a similar condition, 10, or 43.47 per cent.,

perished. For calculous hydronephrosis, 4 nephrectomies indicate 1 death. These facts are suggestive, since they indicate the great necessity of framing an accurate diagnosis of a renal concretion before it has occasioned destructive changes which are liable to terminate in the death of the patient, whether he be abandoned to nature's efforts, or be afforded a chance by a resort to the knife. They also show the great importance of increasing our knowledge of the symptoms of renal calculus, in order that its early removal may be more frequently practised.

ANTIPYRETICS IN PUERPERAL SEPTICÆMIA.

One of the most important and frequent indications in the treatment of puerperal septicæmia is the reduction of the high temperature. But there is a difference of opinion as to the best means for causing this reduction. Thus Dr. Charles, of Liege, in the *Journal d' Accouchements*, February 28, recommends thirty-four grains of quinine and one-tenth of a grain of aconitia made into twenty pills, and if a patient's temperature be 102° F., or more, gives one of these pills every hour, or once every two or three hours, as the temperature may require. The quinine treatment is probably that which is followed by most practitioners, and a preparation of aconite may be added, though probably few use aconitia, because of the uncertain strength of this form of the drug. Siredey, though advising quinine in that form of septicæmia which he calls lymphoperitonitis, claiming that the medicine is marvellously appropriate to the morbid state, being antipyretic, sedative, and antiseptic, prefers in infectious phlebitis, alcohol associated with extract of cinchona. He gives about two ounces, of alcohol in the twenty-four hours. It certainly seems to us better in this disease, if alcohol is to be used, to give it thus in a known quantity, than to give it as is usually done in the form of whiskey or brandy. Moreover, when a definite quantity of alcohol is directed, the nurse will be very careful not to give more or less than the amount prescribed, and thus a blunder that may cause death be prevented.

Dr. Barbier, of the Maternity of Liege, after trying antipyrin in a case of puerperal metritis associated with phlegmon of the iliac fossa, states that it caused a reduction of temperature when aconitia, quinine, sodium salicylate, muriate of quinine hypodermatically, and carbolic acid had failed. Barbier, referring to Henocque's assertion that antipyrin acts upon the bloodvessels and causes contraction of the capillaries, suggests that it may prevent absorption of septic matter by causing contraction of the uterine vessels.

A case of phlebitic puerperal septicæmia now under treatment confirms the statement as to the very prompt reduction of temperature caused by antipyrin. A single dose of nine to fifteen grains will cause within two hours a reduction of temperature of between 2° and 3° F. Very profuse sweating follows the administration of the remedy, and the patient is somewhat prostrated. Unfortunately, the temperature usually begins to rise in about three hours.

REMOVAL OF TUMORS OF THE BLADDER.

In *The Medical Record* for March 15th may be found the results of 100 operations for the removal of neoplasms of the bladder of both sexes, collated by Dr. Stein, of which 54 occurred in males and 46 in females. In view of the recent impetus given by Sir Henry Thompson and Mr. Whitehead to the surgery of vesical neoplasms, these statistics are of more than ordinary interest.

The operations on males include external perineal urethrotomy, perineal cystotomy, hypogastric cystotomy, combined hypogastric and perineal cystotomy, and combined epicystotomy and perineal urethrotomy. Of the 31 external perineal urethrotomies 14 terminated fatally. Of the 17 recoveries, in 5 the growth was only partially removed, so that permanent relief was not to be expected; in some cases the relief was decided, but temporary; while in others the reports were too recent to determine the final result. Of the 10 perineal cystotomies, of which the majority were by the lateral method, 6 recovered, 3 died, and 1 was of recent date. Of the 11 epicystotomies, 2 recovered and 9 died, and further data are required in the recoveries to admit of any positive statement as to the ultimate issue. In at least five of the cases the growths were malignant, and a decided amelioration of the symptoms was noted in four. One combined suprapubic cystotomy and lateral perineal cystotomy recovered, while one combined epicystotomy and median urethrotomy perished.

Of the 46 operations on females 37 were by urethral dilatation, 8 by incision of the urethra, or by colpocystotomy, and 1 by resection of the bladder. Of the 37 in which the growths were removed through the urethra, 24 recovered, 3 were much improved, and 10 died. Of the 8 cutting operations, 5 recovered, and 3 died. The operation of resection of nearly the entire bladder for sarcoma, done by Sonnenberg, was doing well nearly four weeks subsequently.

In his comments upon these several procedures Dr. Stein very justly concludes that each will have to rest upon its own merits, and that a disposition to routine practice is manifested, especially in favor of median urethrotomy. As a result of this practice, not a few sessile neoplasms, particularly when seated at other points than the lower fundus, have been incompletely removed, and thus served to swell the list of deaths. Hence, we agree with him in advising

that in all cases an exploratory median cystotomy in the male, or dilatation of the urethra in the female, should be resorted to, when, if accessible and removable, the growth can be gotten rid of. If, on the other hand, it is inaccessible or too broadly attached, the bladder can be opened above the pubes, and removal be effected. The recorded failures should not militate against its performance, since in nearly one-half of the cases the disease was malignant, while in others the operation was too long deferred.

GENERAL GRANT'S CASE.

Since Sunday, April 12th, General Grant's condition has undergone uninterrupted improvement. He has been free from pain, has eaten with relish, and has slept naturally. His strength has so far returned that he has left his room, has joined the family at table, and has driven in Central Park. This great improvement has, apparently, coincided with a partial or complete abandonment of the use of morphine, digitalis, and alcohol, which had become no longer needed; but it cannot be safely taken to indicate an advance toward a certain, or even probable, recovery. If the disease is epithelioma, recovery is so improbable that it cannot be predicted or even anticipated; it can only be recognized after it has taken place.

But, is it epithelioma? Of that the physicians in charge are best able to judge, although others, knowing the recognized difficulty and uncertainty of a diagnosis in any such case, may, properly, entertain a doubt. It is highly improbable that individual difference of opinion should not exist among four consultants;—indeed, if there were no doubt, why should there be a consultation? Moreover a sentence in a late bulletin, significant in what it leaves unsaid rather than in what it says, seems to point to differences in this case. "The physicians in attendance are, and have been, in entire agreement concerning the management of this case"—not the diagnosis, only the "management," is what the bulletin says; and yet the phrase was plainly written to meet the criticisms of the diagnosis, with which the daily press has of late been filled. A positive diagnosis has been published by only two of the professional attendants, and to those who are acquainted with the large experience, calm judgment, and wise prudence of the others, it would not be surprising if it should appear that they had refused to say that there could be no doubt concerning it.

It is particularly unfortunate, under the present circumstances, that the microscopical examination was not made by a pathologist of wide reputation. It is not to the discredit of the gentleman who did make it that he is not widely known, for he has been but a short time in the ranks of the profession. The demonstration may have been complete, but in such an important case, if an opinion on the microscopic appearances of the diseased tissue was to be published, it would have been better if the report had been made by such recognized authority as would have carried conviction with it to the mind of every one.

The disease appears to have made no progress locally; the slough on the back of the pharynx has in great part fallen, leaving a slightly elevated surface; the right half of the soft palate is destroyed, and the lump behind the angle of the jaw is larger and more diffuse.

CARE OF POOR WOMEN DURING THE LYING-IN PERIOD.

Dr. John P. Gray, the distinguished Superintendent of the Utica Institution for the Insane, has recently delivered a very interesting address upon insanity, and some of the means for its prevention. Among these he mentions want of proper care during maternity, especially during the lying-in period. He takes the just ground that a woman for a month after labor should be free from toil, worry, and anxiety, and that she should have suitable food. In order to secure these most desirable ends for poor women, he suggests the employment of women of the same social class to do the housework, and to be paid for it by an association. This association should be under the care of a physician, and, of course, must depend upon private beneficence for its support. In support of his views he observes: "If women knew they would have all needed care, not in a hospital with its necessary publicity and separation from home, but in their own homes and among their families, and without the notoriety of their condition, what a burden would be lifted, what health saved, and what insanity prevented."

Dr. Gray has had most favorable and extensive opportunities for studying the causes of insanity, and whatever he may say upon the subject is entitled to consideration. Certainly the observation of every practitioner of obstetrics among the poor, will offer instances confirming Dr. Gray's views as to insanity often resulting from neglect and want of proper care after labor. The suggestion made for the prevention of this evil seems to us wise, just, and practicable. In all our great cities there are multitudes of mothers whose condition cries aloud for the very protection proposed. And in all our large cities too, there are men and women of wealth and generous hearts, who, if properly appealed to, would be willing to give liberally for the purpose indicated. We hope the day will soon come when such associations as Dr. Gray proposes will be in active operation wherever needed.

SOCIETY PROCEEDINGS.

AMERICAN SURGICAL ASSOCIATION.

Sixth Annual Session held in Washington, D. C., April 21, 22, 23, 24, 1885.

(Specially reported for The Medical News.)

Tuesday, April 21st.—Morning Session.

The Sixth Annual Session of the American Surgical Association assembled in the Hall of the Army Medical Museum, at Washington, and was called to order at 11 A.M., by The President, W. T. Briggs, M.D., of Nashville, who then delivered the

ADDRESS OF THE PRESIDENT.

After expressing his profound appreciation of the exalted honor conferred upon him by his election to the Presidency of the Association, he said:

We may safely indulge the confident expectation that this meeting will be characterized by the spirit in which the Association had its origin, and will be pervaded by the same united purpose, the same harmonious and agreeable intercourse and similar valuable work to that which has edified and instructed us in previous meetings, and which, in the brief period of its existence, has so illustrated the usefulness of the Association that its permanency as an exponent of the status of American surgery, and as a factor in the true advancement of its science and art, is fully assured.

Notwithstanding these just and bright anticipations on the threshold of this session, we feel oppressed and saddened by the notable absence of a Fellow who, when among us, stood, like Saul, "a head and shoulders taller than his brethren;" an absence which deprives us of the light of remarkable genius and learning upon our discussions, and, at the same time, bows our heads in sorrow for the loss of one whom we had come to venerate as the Nestor of American surgery. While we sat a year ago, his noble form lay prostrate, and his spirit was then near passing, though we had hope that he might be spared. To-day we realize that he whose fertile brain conceived, and whose indomitable effort brought this Association into existence, and developed it to its present proud position among the scientific bodies of the country, has gone from us forever. The death of Prof. Samuel David Gross orphaned the surgical profession of America, and removed from its ranks one who, as pathologist, surgeon, and medical philosopher, was the acknowledged peer of any one in the world. He no longer lives in the flesh, but his labors in the domain of science, for a period of nearly sixty years, has secured an immortality of fame, and his utterances and achievements will descend to further generations of the profession as a precious heritage. Though endowed with brilliant intellectual qualities, his life and example are truly great, in that he conspicuously illustrated the value and dignity of enthusiastic labor and devotion to his profession.

He was the father of this Association. It is the child of his old age, and was to him a deeply cherished offspring. He has left it to us, his Fellows and successors, to nurture and maintain in all the vigor and power with which he would have invested it. Let us then be animated by the same lofty spirit which moved him in its organization, and vow to each other, as in the Temple, that we will devote ourselves to the duty of making it as great and shining as the fame of its founder, and as enduring as the science to which he consecrated his life.

At the close of this address, the Association went into

EXECUTIVE SESSION.

The reading of the minutes of the previous session being dispensed with, the reports of the Treasurer and of the Committe on Publication were read, and the following

COMMITTEE ON NOMINATIONS

was appointed: Drs. C. T. Parkes, of Chicago; A. B. Watson, of Jersey City; E. M. Moore, of Rochester; W. F. Peck, of Davenport, Iowa; N. Senn and S. W. Gross, of Philadelphia; and N. P. Dandridge, of Cincinnati.

Dr. David Prince, of Illinois, then read a short paper on

ATMOSPHERIC PURIFICATION.

After dwelling briefly upon the importance of measures adopted to rid the air of its deleterious impurities, and recounting the more successful of the methods that have been and are now employed, the author introduced a pamphlet describing and illustrating a new device of his own invention, for atmospheric purification by the use of steam. The method he considered preferable to the use of the douche or spray, in that it acted upon a larger scale, and he thought it an important adjuvant to other prophylactic measures.

The report of the Committee on

RESECTIONS OF THE ANKLE-JOINT

being called, Dr. P. S. Conner reported progress, and requested a continuation of the Committee until the next annual session of the Association.

The Association then adjourned until 2 P.M.

Afternoon Session.

Dr. John B. Roberts, of Philadelphia, read a contribution on

THE FIELD AND LIMITATION OF THE OPERATIVE SURGERY OF THE HUMAN BRAIN.

The study of this subject, he remarked in opening, was suggested to him by the observation, while a resident hospital surgeon, of the death of a man from a traumatic cerebral abscess, and the inactive conservative surgery which was then in vogue. "Do we," he asked, "know no better now than to allow a man to die from acute encephalitis without even an attempt at his relief?"

He then introduced nine conclusions which, he remarked, embodied his creed on the subject of traumatic brain injuries:

1. The complexus of symptoms called "compression of the brain," is not due so much to displacing pressure exerted on the brain-substance as it is to some form or degree of intracranial inflammation.

Let the profession repudiate the idea, he urged, that displacement of brain-substance is the cause of the trouble, and they will then discard many of the erroneous

theories in regard to the use of the trephine. There are no definite symptoms by which we can distinguish between an inflammation from laceration and compression of the brain-substance. It would be well if the expression, "traumatic compression of the brain," were always translated "traumatic inflammation of the brain."

2. The conversion of a closed (simple) fracture of the cranium into an open (compound) fracture by incision of the scalp is, with the improved methods of treating wounds, attended with very little increased risk to life.

In this respect, the dangers of open fractures over closed fractures of the skull do not correspond to the corresponding fractures of other bones.

3. The removal of portions of the cranium by the trephine or other cutting instruments is, if properly done, attended with but little more risk to life than amputation of a finger through the shaft of the metacarpal bone.

It remains for the opponents of trephining to show that the cause of death, when it occurs, is due to the trephine. President Briggs and some others consider the operation one of the simplest in surgery; but other authorities oppose that view. The comparison between fractures of the skull and amputation of a metacarpal bone, the speaker considered appropriate, because in each case there was exposed a small amount of cancellous bone tissue. Amputation of the finger may be followed by septicæmia and death, and so may the operation of trephining the skull, but neither is to be expected. According to Amidon, the mortality of trephining (3.6 per cent.) is less than that of amputation through the shaft of the metacarpal bone (4 to 5 per cent).

4. In the majority of cranial fractures the inner table is more extensively shattered than the outer table. The element of danger in fractures is due solely to the splintering of the internal table. Necrosis of the splintered bone fragments is looked upon by some as the element of danger, but in the opinion of the speaker necrosis is of rare occurrence, and the true element of danger is the acute encephalitis that is excited by the splintering.

5. Perforation of the cranium is to be adopted as an exploratory measure almost as often as it is demanded for therapeutic reasons.

This measure the speaker considered justifiable in all cases in which the injury was of sufficient severity to justify the belief that spiculation had occurred.

6. Drainage is more essential in wounds of the brain than in wounds of the other structures.

This method, the author believed, had been greatly neglected, for surgeons who would be loath to permit an accumulation of pus to remain for an hour after its discovery in any other part of the body, would quietly allow a case to die from an abscess in the brain without an attempt at relief by operative procedure. Several cases were reported illustrative of this proposition.

7. Many regions of the cerebral hemispheres of man may be incised and excised with comparative impunity.

The timidity of surgeons with regard to injuring the brain-substance by operative means, the speaker attributed to the prevalent ignorance on the subject of cerebral localizations. Deaths are not due to the exposure of the cerebral convolutions.

8. Accidental or operative injuries to the cerebral membranes, meningeal arteries, or venous sinuses should be treated as are similar lesions of similar structures in other localities.

Numerous cases have been reported in support of this proposition.

9. The results of the study of cerebral localization are more necessary to the conscientious surgeon than to the neurologist.

The time has come when a man, if he assume the role of a surgeon, must make the study of cerebral localizations a special feature of his education. When called upon to operate in cases of head-injury, he must in many cases be the only one to decide what shall or shall not be done.

The principles thus set down were next applied to cranial fractures, to intracranial hemorrhage, to intracranial suppuration, to epilepsy following cranial injury, to insanity following cranial injury, and to cerebral tumors.

The following are the rules adduced by the author:

A. Cranial Fractures.

Closed (Simple) Fissured Fractures.

1. Where there is no evident depression, and no brain symptoms, no operation should be made.

2. In case of no evident depression, with brain symptoms, incise the scalp and trephine.

3. With evident depression, but no brain symptoms, incise the scalp and possibly trephine.

4. With evident depression and brain symptoms, incise the scalp and trephine.

Closed (Simple) Comminuted Fractures.

5. Where there is no evident depression, and no brain symptoms, it is advised to incise the scalp and probably trephine.

6. In cases of no evident depression, with brain symptoms, incise scalp and trephine.

7. With evident depression, but no brain symptoms, incise scalp and trephine.

8. With evident depression and brain symptoms, incise scalp and trephine.

Open (Compound) Fissured Fractures.

9. In cases with no evident depression, no brain symptoms, no operation is advised, but treat the wound.

10. Cases presenting no evident depression, with brain symptoms, should be trephined.

11. With evident depression, no brain symptoms, possibly trephine.

12. With evident depression and brain symptoms, trephine.

Open (Compound) Comminuted Fractures.

13. If there is no evident depression, and no brain symptoms, it is probably proper to trephine.

14. In case of no evident depression, with brain symptoms, trephine.

15. With evident depression and no brain symptoms, trephine.

16. With evident depression and brain symptoms, trephine.

As a working rule for surgeons the speaker believed that these conclusions would be found reliable and

correct. Trephining has become an operation of so little danger that every case of doubt should be treated by it.

B. Intracranial Hemorrhage.

Trephine for the removal of a clot and the arrest of bleeding when the probable seat of hemorrhage is ascertainable, and the clot is believed to be a localized one. The speaker then discussed briefly the symptoms which rendered the operation advisable and those which contraindicated it.

C. Intracranial Suppuration.

Trephine and make, if necessary, exploratory punctures in all cases of abscess. This is rendered more compulsory because of the fact that the spontaneous evacuation or other removal of an abscess in the brain practically never occurs. Early symptoms of pus mean, as a rule, "Do not operate;" later appearances of pus indicate, however, the propriety of an early operation. If the pus is not discovered beneath the dura, then incise the dura, and if the pus is not then discovered aspiration should be performed, unless the symptoms disappear upon the removal of tension by the perforation of the dura.

D. Epilepsy following Cranial Injury.

Remove a portion of the cranium in selected cases. Abscesses are usually situated in the anterior half of the cerebrum. The symptoms indicating the propriety of trephining in these cases are, a painful or sensitive cicatrix, and symptoms indicating brain irritation in the vicinity of the scar, especially if this be in the anterior half of the cranium. The temperature test was then referred to and the statement of a modern writer that the temperature may be taken by placing a thermometer in the auditory meatus. The symptoms contraindicating operative procedure are the presence of signs indicative of inflammatory processes at other portions of the brain, the history of epilepsy or insanity in other members of the family.

In these cases, Dr. Roberts added, several months must elapse before the case can be pronounced one of failure. The operation should be done as promptly as possible.

After a brief review of the last divisions of the application, the author passed to a demonstration upon a chart of the leading cerebral localizations. The rules for these last cases were.

E. For Insanity following Cranial Injury.

Remove a portion of the cranium in selected cases.

F. For Cerebral Tumor.

If it can be localized, and if it is probably superficial, remove the bone and excise the growth, if it is found.

Dr. Hunter McGuire, of Richmond, remarked that in reviewing the paper that had just been read, he could find but two instances in which an operation was not advised. This advice, he continued, takes us back one hundred years, to the time when men used to boast of the number of holes they carried in their heads, and when surgeons boasted of the number of heads they had trephined. There are no set rules that can be laid down for the government of all cases; each case must be a law to itself. There are no two injuries of the skull that are the same any more than there are two faces exactly alike. Referring to the first proposition, he asked how the author could account for the almost immediate appearance of symptoms of compression of the brain in so many cases. A man receives a blow upon the head. The bone is depressed, the brain is compressed, and almost immediately, within a few minutes, or even within a few seconds, symptoms of depression are manifested. Is it possible that an inflammatory exudation could have developed so rapidly? Such, to the speaker, seemed almost impossible. The author has compared the use of the trephine to the amputation of the metacarpal bone. It was either Cooper or Hunter who said that there was to the patient between the trephine and eternity a little thin sheet of paper. How the author came to the conclusion that the application of the trephine was so simple a matter the speaker could not comprehend. He asserts that a man may even be trephined and immediately go to his home. With no disrespect, the speaker wished to know to which home Dr. Roberts referred, and whether it would not, in a great many cases, be the "long home." With regard to the importance of drainage in cerebral difficulties, he agreed with Dr. Roberts. In the last case of trephining which he had performed, he had taken out a piece of the scalp of a size to correspond to the size of the trephine, in order to secure thorough drainage. He then narrated several cases in which he had made use of the trephine. In one case, in which an individual had been insane for nine years, the day following the operation he spoke of events as occurring yesterday which had occurred nine years before, and uttered the first coherent words for that period of time.

Dr. Moses Gunn, of Chicago, recalled the position he had taken in a discussion of the same ground covered by this paper three years ago, when he had advocated the early operation in cases of cranial fracture with symptoms of depression, and had endeavored to advocate the rule that in simple or closed fracture the bone should be elevated as in compound fractures, taking the ground that aseptic measures as now practised avert the danger that would otherwise exist in the conversion of a simple into a compound fracture. This rule, he thought, if properly applied could be employed not only with safety, but with benefit to the human race.

With regard to the first proposition laid down by Dr. Roberts, he agreed, and believed that in many cases the symptoms arise not from depression but from irritation and inflammation. Mere mechanical compression of the brain is not a symptom of importance. As stated by Dr. Briggs in the discussion referred to as occurring three years ago, if compression of the brain was all that is to be feared, he would never use the trephine, because the brain would soon accommodate itself to the new pressure. The danger is in the changes of nutrition that follow. He did not go so far as Dr. Roberts, however, and say that there are no such symptoms as those of compression. These symptoms, he thought, were too distinctive in their character, and came on too soon after the accident to be due to any other cause. There is then mechanical compression, and not irritation or inflammation. But that mechanical compression does not require the application of the trephine. The danger of permitting the pressure to remain is that it may become permanent and excite irritation and in-

flammation that may do injury, in giving rise to secondary symptoms.

Dr. C. B. Nancrede, of Philadelphia, agreed with the writer of the paper in many points, but differed from him in a number of others. As to the first proposition, he agreed with the previous speaker. If Dr. Roberts were to call it secondary compression he would agree with him in the conclusion: that it is due to some form of inflammation. Compression of the brain produces sudden and violent contraction of the vessels of the brain in the vicinity of the compression. It is an error to associate in our minds the dangers of compound fractures of the cranium and compound fracture of other bones. They are not to be compared. In considering any operation we must consider the complications that may arise from it in the most skilled hands. He could hardly conceive how a serious complication could arise from an amputation of the metacarpal bone, but he could very easily understand how serious complications could arise from operative procedures upon the skull.

In referring to the fifth conclusion, he remarked that he would be very sorry to have his cranium perforated as an exploratory measure. The importance of drainage he considered well established. On the seventh proposition he differed from Dr. Roberts. Nearly all the cases of operative procedure for brain-tumor have terminated fatally. The treatment of wounds of large arteries and veins, he said, is manifest, but, he added, in all cases where there is reason to suspect that a coronal sinus has been wounded, we should act as though that sinus had been wounded. He was cognizant of one or two cases in which the patient perished before the eyes of the operator because that assumption was not made. In one case which he had seen with Dr. Hopkins, this assumption was made, with the gratifying result of averting what would have been a fatal hemorrhage. As soon as the button of bone was detached, there was a most appalling gush of blood. This was controlled by pressure and the vessel secured by suture, but great difficulty was encountered in the removal of the forceps by which the vessel was secured. Finally a piece of lint dusted with iodoform, was placed over the ligature and the case went on to recovery.

With regard to the study of cerebral localization, he agreed with Dr. Roberts, and believed that we are now fairly acquainted with the motor centres. There are few of them so well located, however, that we can be sure of the point that should be uncovered. As for the reasons for the application of the trephine he agreed in some of them with the author and differed in others, but considered the subject one that should be given more deliberate investigation. How Dr. Amidon could have obtained such a number of cases with so low a mortality as 3.6 per cent. from trephining, he could not understand. From his investigations, he would place the mortality at about 10 per cent.

As to the importance of drainage he agreed with Dr. Roberts, but not to such a degree as asserted in the paper. In regard to the temperature test, the speaker referred to its importance if it could be confirmed. In every case of which he could learn in which a record was taken, where the inflammation was confined to the brain-substance itself, the temperature was normal or subnormal. He further cautioned against waiting until inflammation had developed before applying the trephine. After inflammation has developed, there is no good that can be done by operative procedures, unless there was a mass of pus to evacuate. The symptoms of intracranial irritation can be recognized long before there is any change but an effusion of serum.

Dr. W. F. Peck, of Davenport, Iowa, said that he coincided, in the majority of instances, with the opinions expressed in the paper. The first thing to decide in accidents to the skull was whether any injury had been done to the brain, and then whether pressure was being exerted upon the intracranial contents. The secondary consequences certainly call for other interference than therapeutic. Several cases were then narrated to illustrate his views on this subject. He had had about six cases, and in their treatment he had endeavored chiefly to remove pressure and to establish drainage, which being secured, the result was, as a rule, favorable.

Dr. T. F. Prewitt, of St. Louis, considered the propositions of Dr. Roberts so sweeping that they should be thoroughly discussed, and clearly defined views as to the conditions which demand trephining and those which do not demand it, laid down. He did not consider the injury in a simple case of fracture as of great importance. The danger is from the injury that may have been done to the brain. There is, however, undoubted danger in the too free use of the trephine. Some fractures of the skull are unaccompanied by symptoms, and are recovered from without leaving any permanent ill-effects, hence it is not proper to use the trephine in all cases. Those cases in which there are very sharp, needle-like spicula, are those in which the trephine should be used. Where, then, it is believed from the nature of the injury that the spicula are of this kind, as in perforating wounds, it is proper to trephine, even in the absence of very severe symptoms. Where there were no symptoms and no external wound, the speaker thought it proper to wait.

Dr. C. T. Parkes, of Chicago, differed from Dr. Roberts in regard to the symptoms of compression, but admitted that it is difficult to determine to what these symptoms are due.

Dr. S. W. Gross, of Philadelphia, requested that Dr. Roberts explain, before the discussion was permitted to go further, exactly what he meant by the expression "brain symptoms."

Dr. Roberts explained that by the term he meant the manifestations which are generally believed to come from lesions; in cases of fracture the term symptoms is generally employed to designate the coma, the hemiplegia, etc., which are usually attributed to depression of bone, or a clot upon the cerebral cortex. But in his first proposition he had tried to make clear that when we say compression we mean irritation, which is the first symptom of inflammation.

Dr. Prewitt then continued his remarks by a review of the propositions of the author, and a statement of his views upon them. Referring to the location of the centre of sensation as given by Dr. Roberts, he narrated a case that had occurred in his practice. A man was struck upon the upper and outer portion of the parietal and anterior portion of the occipital bone, with the end of a pistol. There was a complete fracture. He trephined, and noticed that before the operation as

well as during it, a large amount of brain-substance was removed. After trephining, he introduced his finger and found upon the tentorium cerebri, the "sight" of the pistol. In this case the seat of sensation must have been lacerated, and in part at least removed, and yet there was not a symptom of the trouble that would be expected to follow. Two weeks later, however, the man had a chill, and became hemiplegic. This was found due to the removal of the drainage-tube, and when this was replaced the symptoms soon subsided.

Dr. J. Collins Warren, of Boston, referred to the difficulty of obtaining such thorough drainage as that referred to. This is chiefly on account of the intracranial tension with which we have to contend. We do not find usually large collections of pus, but get rather the symptoms of irritation from brain-inflammation without much accumulation of its products. Another difficulty in deciding the question of interference in any given case lies in the difficulties of diagnosis. We may also have brain symptoms, from lesions external to the brain, as from periostitis and cellulitis. He reported a case of fracture at the upper and anterior portion of the parietal bone, that was treated at the Massachusetts General Hospital, which had been thoroughly analyzed by Dr. Walton, the neurologist of that institution. In that case paralysis of the leg first appeared, then paralysis of the arm, and finally a paralysis of the lower portion of the face. After some time had elapsed, the symptoms began to disappear in the order of their invasion.

Dr. L. McLane Tiffany, of Baltimore, differed from Dr. Roberts as to the insignificance of open wounds of the cranium, and remarked that most surgeons prefer to have their wounds, whether of the cranium or of other parts, remain closed. Certain monkeys, he continued, have been cited as having had their heads opened without damage, but it has yet to be shown that any man has had his head opened with as great impunity. In regard to the shattering of the inner table of the skull, he referred to the fact that it only depended upon which direction the missile took which table was shattered. He further called attention to the difference which exists between grown persons and children with regard to operative procedure, and remarked that he had seen a number of fractures in children which had gotten well without any bad symptoms, and in which the groove in the skull could be felt after the individual had reached maturity, but where a similar injury to an adult would have certainly called for operative interference. Attention was also called to a difference between the negro and the white race in regard to these operations. The negro, he said, will tolerate operations involving the brain with much less shock than the white man. He thought that the diagnosis where there were no symptoms and no depression was an impossibility Lastly, in referring to the rules laid down by Dr. Roberts, he called attention to the direction, "brain symptoms, but no depression," and asked, "How would you know where to trephine?" There might be counter and not direct injury, and for this reason there should be a distinction made.

Dr. S. W. Gross agreed with Dr. Roberts that there might be brain symptoms with no evidence of a fracture. Such an occurrence is of extraordinary frequency in army practice, as he remembered stating in a paper which he had prepared a few years ago on the subject of fractures of the brain in military practice. The dura mater may be so much stripped from the internal table of the skull as to give rise to an effusion of blood, and in such a case the symptoms of compression come on much more slowly than in case of the rupture of a branch of the middle meningeal artery. In regard to the simplicity of open fractures of the skull he differed from the author of the paper chiefly for the reason that the carrying out of antiseptic precautions in skull injuries is an exceedingly difficult matter. He did not consider trephining as safe as amputation of the metacarpal bone. The tables of Amidon, he stated, will not bear a critical inspection, for he has made a theory and has made his facts fit his theory, so that his paper is unreliable.

In regard to drainage, he agreed with Dr. Roberts, but added that the drainage of the brain is an exceeding difficult thing to accomplish. In regard to the rules that are laid down, he thought it proper to make further investigation before such measures are adopted. In the case of gunshot injuries, he thought it proper to enlarge the opening and to follow the ball with a large probe until its location is established, and then, if possible, to remove it. The popular sentiment with regard to the interference by the surgeon in cases of cranial injuries was also strongly denounced.

Dr. E. M. Moore, of Rochester, considered the subject one upon which the Association should give a very decided opinion. Accidents to the head are cases that are occuring to us constantly, especially in cases of suicide. What is to be done? With regard to popular sentiment, he did not think that the scientific surgeon should trouble himself about the silliness of juries, or the folly of judges. The idea of using a drainage-tube in the brain is modern, but the good results that have followed its introduction are gratifying. He has been accustomed of late to use a large probe as recommended by the last speaker, for the exploration of these wounds. In the last case in which he had used it he was able to follow the bullet down to the occipital bone, and then to trephine down upon it and remove it. He did not persevere sufficiently to carry the drainage-tube entirely through the track of the wound, as he now regretted that he did not do. The recovery in many cases is clearly attributable to the free drainage that is established by the wound, or by operation. As for the statistics of trephining, he considered them of no value whatever.

The further discussion of this paper was postponed until Wednesday morning.

MISCELLANEOUS BUSINESS.

A motion was passed inviting the Surgeon-General of the Army, the Navy, and the Marine Hospital Service, to be present, and to participate in the discussions.

Dr. J. S. Billings then invited the Association to take an excursion to the Johns Hopkins College and Hospital in Baltimore on Wednesday afternoon. The invitation was accepted and sufficient time set aside for the purpose.

MEDICAL SOCIETY OF THE STATE OF TENNESSEE.

Fifty-first Annual Session, held at Nashville, April 14, 15, and 16, 1885.

(Specially reported for THE MEDICAL NEWS.)

THE Society was called to order in the House of Representatives, State Capitol, in Nashville, April 14th, and had a three day's session, The President, DR. D. D. SAUNDERS, of Memphis, in the Chair. There were a number of valuable papers read.

DR. R. F. EVANS, of Shelbyville, presented a paper on

MALARIAL REMITTENT FEVER,

in which he did not undertake to settle the dispute as to the name *typho-malarial*, but stated that there was a class of cases in which quinine failed to control the paroxysms. He held that in such cases it was useless to continue the use of quinine, and it was advisable to look mainly to the support of the patient. He referred to the use of tr. gelsemium and potassium bromide for the restlessness and pain, and of opium and quinine in small doses to sustain the vital functions. The paper gave rise to an animated discussion.

DR. D. D. SAUNDERS, of Memphis, attacked vigorously the hybrid term *typho-malarial*, claiming that the fever cases were either maltreated or neglected malarial fever or pure typhoid.

DR. C. C. FITE, of Nashville, stated that it was a very troublesome question but he believed that there was a malarial fever caused by a malarial germ, a typhoid fever caused by its proper *materies morbi*, and a different, distinct fever caused by decayed vegetable matter and this fever was the one under discussion. He instanced some cases in his practice in which a cistern was found to contain rotten poplar planks and also referred to the experience of Dr. Hoff, of the army; a regiment contracted this fever (called then mountain fever) from the soldiers drinking water which after leaving the snow line trickled through a bed of decaying pine-needles. He stated that some of these cases could not be called either malarial or typhoid fever, but he not only objected to the word *typho-malarial*, but believed that it was a separate and distinct disease due to vegetable decay, and held that in less than twenty years it would be so decided.

DR. O. H. MENEES, of Nashville, said that he believed in the term typho-malarial and instanced the ulceration of Peyer's patches and hemorrhage, stating, however, that ulcerative changes might occur from any protracted fever.

DR. G. W. DRAKE, of Chattanooga, held that the two fevers did coexist and the proper plan was to state that the case was typhoid *and* malarial fever combined in the same case. After the discussion had been continued further a committee was appointed to make a report on this subject at the next meeting of the Society, Dr. Deering J. Roberts, of Nashville, being made chairman.

DR. J. W. SHARBER, of Spring Hill, exhibited a specimen of

EXTRAUTERINE PREGNANCY,

in which the patient carried an eight months' child for twenty-nine years, and finally died from other causes.

DR. J. W. PENN, of Humboldt, read a paper on

THE CAUSES OF CHOLERA,

in which he held that people never had cholera who used pure cistern or freestone water.

DR. THOMAS L. MADDIN, of Nashville, said that the experience of Nashville proved this, for in the epidemics which had visited Nashville, and it never failed to come early and linger long there, there was always a heavy mortality for we use a strong and impure limestone water, whilst just across the river, in Edgefield, everybody uses cistern water, and they never had a case. He did not hold that impure water caused cholera, but that it prepared the system to receive the poison. Impure limestone water so impaired the vital forces that they do not resist the *materies morbi* when introduced.

A resolution was unanimously adopted memoralizing the President to place the

EPIDEMIC CONTINGENT FUND

in the hands of the National Board of Health, stating that it was the proper body to attend to such matters.

DR. D. D. SAUNDERS, of Memphis, Chairman of

THE COMMITTEE ON LEGISLATION,

made a report in which he severely overhauled members of the profession who by their indifference had allowed the proposed medical bill to fail before the recent General Assembly. Tennessee has no medical law whatever, and is overrun with travelling harpies, and the profession will not unite and put a stop to it. The bill was prepared by the Committee, and afterwards rewritten and introduced by the Hon. Ernest Caldwell, of Shelbyville, and it would have become a law, but some medical men in the Legislature opposing, and not being sustained by members of the Society in the State, it failed for the lack of a constitutional majority.

DR. W. W. TAYLOR, of Memphis, Chairman of

THE COMMITTEE ON COUNTY MEDICAL ORGANIZATION,

made a report in much the same strain. Another Committee was appointed, with Dr. Taylor as Chairman, to report next year.

There was a good attendance, and the meeting proved to be one of more than usual interest. The Society will meet next year, the first Tuesday in April, in Memphis, being invited to do so by the retiring President, Dr. D. D. Saunders.

Dr. Thomas L. Maddin, of Nashville, was elected *President*, Dr. C. C. Fite, of Nashville, *Secretary*, and Dr. Deering J. Roberts, of Nashville, *Treasurer*.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, April 16, 1885.

THE PRESIDENT, A. JACOBI, M.D., IN THE CHAIR.

THE ANNIVERSARY ADDRESS.

THE PRESIDENT announced that the Council had appointed Dr. E. G. Janeway to deliver the anniversary address before the Academy in November next.

PRESENTATION OF THE PORTRAIT OF LATE PRESIDENT, FORDYCE BARKER, M.D., LL.D.

DR. THOMAS M. MARKOE, on behalf of Mr. and Mrs. John Jacob Astor, presented to the Academy

a large and admirable portrait of Dr. Fordyce Barker, painted by Lazarus. In the course of his remarks he referred to the kindly esteem in which Dr. Barker was held, as indicated by this generous gift from those who had previously testified their appreciation of the Academy of Medicine by presenting it with its "loving cup," and adding materially to its library fund.

The President made an appropriate address in accepting the portrait on behalf of the Academy, in which he said that he was glad that it came from the midst of the public, and especially from those who held such an influential position in the community. It showed, as Dr. Markoe had said, that the public was beginning to take an interest in the medical profession, and to recognize the value of the services rendered by it. In the case of Dr. Barker this was certainly a well-merited homage.

Dr. James B. Hunter then read a paper on

ENDOMETRITIS FUNGOSA; ITS PATHOLOGY, DIAGNOSIS, AND TREATMENT.

The attention of the profession was first called to this condition, he said, in 1846, by Robert, a pupil of Récamier, who himself wrote of it in 1850. He then mentioned the labors of Récamier, Nélaton, Aran, Courty, Ferrier, Goldschmidt, Gallard, Winchel, Mundé, and other authorities in regard to the subject. The affection was one the importance of which had never been fully appreciated in England, but which had long been recognized in this country.

According to his own experience, Dr. Hunter said, fungosities proper were never found in the cervical canal, though they might be found immediately beyond this. They resembled small polypi, and while seldom exceeding five millimetres in diameter, were usually much smaller than this. Neither the number of the growths nor their size seemed to have any proportion whatever to the amount of hemorrhage resulting from their presence. They were of a pale pink color, had an abundant vascular supply, and there was always a distinct fibrous element in their structure. They constituted a truly inflammatory tissue, and were characterized by no process at all akin to degeneration, although Dr. Thomas, in his work on diseases of women, alluded to the condition as fungous degeneration of the lining membrane of the uterus. It had often excited remark that such profuse hemorrhage should result from such an apparently slight cause; but this was in reality not to be wondered at when the great extent of surface presented by the cavity of the uterus when studded with these growths was taken into consideration. The superficial area of the endometrium was enormously increased by the presence of even a few of them. The question of the true cause of the hemorrhage resulting from them, however, had been avoided by all writers on the subject, with whose works he was acquainted.

In making a diagnosis of endometritis fungosa, it was sometimes quite difficult to exclude sarcoma and epithelioma from the examination of a single specimen, and, hence, it was very desirable that repeated examinations should be made. Great care and perseverance were, therefore, often necessary in order to arrive positively at a correct diagnosis.

As to the symptomatology, the principal, and, indeed, only symptom of importance was menorrhagia; pain being quite rare, as a rule. In this condition the menstrual period was likely to be increased; while in carcinoma there was a metrorrhagia, rather than a menorrhagia. Sarcoma usually did not appear until after the thirty-fifth year; but endometritis fungosa might occur at any time during the childbearing period as well as (though more rarely) both before and after the latter. The affection had no connection whatever with syphilis or gonorrhœa; but was often associated with uterine fibroids. Dr. Hunter then called attention to the differential diagnosis on the one hand between endometritis fungosa and such foreign growths as polypi, adenomata, retained decidual remains, papillomata (which were believed to be always a friend to the cervical canal, and thus occupying a distinctly different position), and the so-called villous degeneration of the endometritis referred to by Goodell; and, on the other, from malignant affections. Among the latter, round-celled sarcoma is most liable to be mistaken for it, and is not so uncommon as Dr. Mundé, in his paper sent to the Edinburgh Obstetrical Society, in 1878, and other authors had stated. In addition to microscopical differences, there are certain points by which a differential diagnosis may be made, and among these are the following: In endometritis fungosa there is little pain, while in sarcoma the pain is apt to be a prominent feature. In the one there is, as a rule, menorrhagia; in the other, metrorrhagia. In the one the discharge is odorless; in the other it is often offensive. In the one the growths are of a pale pink, and firm in consistence; in the other they are grayish-white, amorphous, and very friable. In the one there is no infiltration of the surrounding tissue; in the other there is marked infiltration and the surrounding mucous membrane is destroyed. In the one the pathological changes are confined exclusively to the mucous membrane; in the other they involve the body of the uterus also.

The treatment of the fungous growths themselves is very simple, consisting merely of their removal from the endometrium by means of the curette. The treatment of the condition which gives rise to them, however, is generally a more difficult matter, and on the success of this depends the prospect of a return of the fungosities. In his own experience he had never found it necessary to produce dilatation of the cervical canal before using the curette, as the mouth of the uterus was always sufficiently patulous for the purpose. He thought it better to etherize the patient, as the growth can be more thoroughly and satisfactorily removed when this was done. Sims's speculum is placed in the vagina, and the instrument employed is the Thomas blunt copper wire curette. After the curetting Churchill's tincture of iodine is thoroughly applied to the whole endometrium, and a light tampon having been inserted, the patient is put to bed for two days.

The use of the curette has an excellent effect on the congested mucous membrane of the cavity of the uterus, even when no fungosities are present. The contra-indications for resorting to the curette are recent pelvic inflammation or the existence of any degree of parametritis. Récamier's original curette was undoubtedly a cutting instrument. It has recently been claimed in England that it is blunt; but there is in reality no evidence that such is the case.

Both Sims's and Simon's curettes are also cutting steel instruments. In the curette of Dr. Thomas, which he devised about 1870, the bluntness is the important factor, and it was the first one of the kind. Two sizes of the instrument are used. Emmet's curette-forceps is an entirely different instrument. The blunt curette is perfectly safe, and as it is thoroughly efficacious in removing fungous growths, he thinks that it is greatly to be preferred in this class of cases.

Dr. W. Gill Wylie said that the pathology of the affection had been well stated, and that he was willing to accept the greater part of the paper, though he would object to Dr. Hunter's treatment in some respects. He agreed with him in the statement that the use of the curette was seldom followed by hemorrhage; and he was, therefore, somewhat surprised when he heard him say that he was in the habit of employing a light tampon after cutting. For himself, he never used a tampon if he could possibly avoid it, because he considers it a violation of one of the first laws of surgery—thorough drainage. Even in cases of cancer he prefers to stop hemorrhage in some other way. If the circular artery had been injured he would twist it with a silver wire, and under any circumstances would apply lint and cold water, styptics or pure carbolic acid, and even wait an hour before resorting to the tampon. Before antiseptics were used it was well known how offensive the tampon became, and although this may to a great extent be avoided by the use of the bichloride of mercury and iodoform, he believes there is always a liability of irritating fluid being forced up into the Fallopian tubes. He is in the habit of practising dilatation in all cases, and principally for the purpose of securing more proper drainage. In addition, though the os were quite patulous, there is always danger of injuring the cervical tissues with the curette unless further dilatation is made. He is, of course, strongly opposed to the use of sponge tents on account of the danger of septic absorption, and always uses Sims's steel dilators. He also uses Sims's steel curette, and in regard to this instrument he thought great injustice had been done Dr. Sims. The so-called sharp Sims's curette is not in reality a sharp curette, although it is true that it is made of steel. At first it was made with a flexible shank, but afterwards it was found advisable to have it constructed with an universal curve. If a tenaculum is employed in connection with the curette, any uterus can be straightened to such an extent as to admit of having the instrument satisfactorily applied to every portion of its cavity. The advantage of the steel curette over the dull copper one is, that it does the work desired more thoroughly, while at the same time it does not injure the normal tissue. In many cases he believes that the dull curette is not sufficient, because it can not remove the fungosities perfectly. Sarcoma could also be removed very thoroughly with the steel instrument.

Dr. P. F. Mundé said that since his paper read seven years ago before the Edinburgh Obstetrical Society, to which Dr. Hunter had alluded, had been written, cases of sarcoma have accumulated; the disease having of late become much better known than formerly. He thought that Dr. Hunter ought to have given attention to the influence of laceration of the cervix upon the causation of endometritis fungosa. He believed that it constitutes a very important element in the etiology. This is the first link in the pathological chain which finally results in the fungous growths in the cavity of the uterus; and in restoring the organ to its normal condition it is inconsistent in the gynecologist to proceed in an inverse order. The first thing to do is to scrape away all the fungosities with the curette, and the next to apply strong tincture of iodine thoroughly to the inflamed endometrium; after which, if he repaired the laceration of the cervix there would be little danger of a return of the trouble.

Though menorrhagia was the rule with fungous endometritis, there were occasional exceptions. Dr. Wylie had mentioned amenorrhœa as being present in certain instances, and he had himself observed it in one case. The lady consulted him for amenorrhœa, telling him that she would go five or six months without any appearance of the menses, and then there would be a profuse flow. Yet, on making an examination, he found the uterus full of fungous growths. In this case, he did not employ iodine, but applied carbolic acid instead. In the paper before referred to, he had advocated the use of the short curette, and he believed that it had in reality been the means of practically introducing this instrument into Great Britain. Since the time that it had been written, however, he had modified his views, in regard to it, to some extent. While he is still an advocate of its use in many cases, he now agrees with Dr. Wylie that there are also many cases in which the blunt curette is not sufficient; the sharp instrument being required in order to eradicate the growths. In such cases it is necessary to scrape down the mucous membrane almost to the substratum. Still, he does not think it advisable to run a stiff curette, or one with which we could scrape through the uterine wall. A fairly flexible shank is preferable. The dull curette is very useful for diagnostic purposes, and if in any instance no fungosities are brought away with this, he concludes that the case is not suitable for curetting.

In regard to the after-treatment, he disagreed with Dr. Wylie and accepted the position of Dr. Hunter. When there is subinvolution there is very apt to be partly free hemorrhage, and he is often glad to plug both the uterus and the vagina. He does not believe it a good plan to curette a patient except at her own home and under the influence of an anæsthetic, and does not think it is safe to leave the house without having placed a tampon in position. After using the curette he makes an application of either tincture of iodine or of a mixture of equal parts of solution of persulphate of iron and glycerine, after which he places a tampon in the vagina. He regards this procedure in the light of an operation, and always calls within forty-eight hours to remove the tampon. Applications of iodine to the endometrium ought to be made twice a week at first, and later once a week; and he regards it as very important that the after-treatment be maintained for a sufficient length of time.

Dr. C. C. Lee said he concurred, in the main, in the views expressed by Dr. Hunter. In regard to the symptomatology, however, he thought that the condition was not necessarily characterized by menorrhagia. Metrorrhagia, he believed, is a well-marked symptom in quite a large minority of typical cases; the condition of the uterus being, as a rule, one of general passive congestion. In treating endometritis fungosa he always

prepares the case carefully before operating, and when using the curette prefers to give ether. In the choice of instruments he has no hesitation in declaring himself strongly in favor of the blunt curette, as he believes the sharp curette quite as likely to do injury as good, even when employed by the most skilful hand. One of the worst cases of pelvic peritonitis, which he had ever seen, had been directly caused by the employment of the sharp curette by a gynecologist of high reputation.

He does not find it necessary to practise dilatation, as the cervical canal is always sufficiently patulous in these cases. He makes it a rule always to wash out the cavity of the uterus both before and immediately after using the curette with a weak carbolic acid solution. In addition, after curetting he applies a solution of strong tincture of iodine to which is added a small quantity of chromic acid, and he had found that this combination has a much more permanent effect upon the uterine mucous membrane than any other with which he is acquainted. One part of saturated solution of chromic acid is added to four parts each of alcohol and tincture of iodine. He objected to persulphate of iron on account of the hard coagula which result from its use. The Thomas curette is the one he always employs.

Dr. Mundé explained that when glycerine is used with the persulphate of iron solution, as he had recommended, these hard coagula are not formed.

Dr. B. F. Dawson expressed himself as being heartily in accord with the sentiments of the author of the paper. The mildness of the dull curette constitutes its great advantage. Dr. Mundé had said that if he is unable to extract any granulations from the cavity of the uterus with the blunt curette, he does not use the sharp instrument; and if such be the case, he could not see why he should ever use the sharp one at all. Only recently he had seen a very aggravated case of pelvic cellulitis which followed the application of the sharp curette. He did not think it necessary to practise dilatation, because the whole cavity of the uterus is enlarged by the growth. Uterine catarrh is a constant concomitant of the condition of fungous granulations, and whenever uterine catarrh exists there is sure to be a patulous os. He thought that ferocity was too apt to characterize the modern gynecologist.

Dr. Wylie said that the Sims's curette is not a sharp instrument in the sense of a cutting knife, and he thought that some of the gentlemen who had spoken were not familiar with it, or they would not have expressed themselves so strongly in opposition to its employment.

Dr. Lee thought it strange that Dr. Wylie should make such a statement, as he himself is, and, he believed, all the other gynecologists present are perfectly familiar with the Sims's curette.

Dr. Hunter brought the discussion to a close. He said he is in the habit of using a light tampon for antiseptic purposes, and that he had not, like Dr. Mundé, found it necessary to employ it for the controlling of severe hemorrhage. Unlike Dr. Wylie, he does not believe it necessary to dilate the cervix, and this dilatation, he thought, is much more likely to do injury than the use of the curette without dilatation. He had been personally taught the use of the Sims's curette by Dr. Sims himself, so that he is well acquainted with the instrument. He had mentioned laceration of the cervix as one of the causes of endometritis fungosa; but as it was not his intention to make his paper an exhaustive one, he had not had time to dwell upon it at length. When there is very great hemorrhage following the use of the curette in any case, he was inclined to think that it is due to the fact that all of the growth has not been removed. Like Drs. Lee and Dawson, he also had some instances in which serious consequences had resulted from the use of the sharp curette, and, at the present time, he is treating such a case in which the instrument had been handled by a skilful operator. The blunt curette should always be employed, he believed, in the condition in question; though the sharp curette also has its use, as, for instance, in the removal of carcinoma.

NEW YORK SURGICAL SOCIETY.

Stated Meeting, April 14, 1885.

The Vice-President, Charles McBurney, M.D., in the Chair.

Dr. E. L. Keyes read a paper entitled

CASES BEARING UPON CERTAIN MOOTED POINTS IN SYPHILOLOGY.

(See page 451.)

Dr. Post asked if any irritation of the kidneys was produced by the large doses of iodide of potassium.

Dr. Keyes replied, not a particle.

Dr. Hall asked if the percentage in Dr. Keyes's statistics included chancroids or only indurated chancres.

Dr. Keyes said that they included only chancres which had initial sclerosis; he did not think it had ever reached quite fifty per cent.

Dr. Gerster asked Dr. Keyes with regard to selection of cases by the Vienna men, if among the unicists excision is not practised indiscriminately.

Dr. Keyes replied that it was. He thought the first statistics given were based on the fact that only initial sclerosis was excised.

Dr. Gerster believed that the position taken by the unicists was rational and logical, inasmuch as they admit that there is something, with reference to venereal sores, which they do not know, but which dualists claim to know and do not know. It is frequently the case that a soft chancre occurs which remains soft and yet is followed by syphilis, and one such well-authenticated observation was sufficient to overthrow the whole doctrine of dualism.

Dr Keyes said that one such authenticated case was sufficient to overthrow the entire theory of dualism if syphilis was always ushered in by hard chancre, a view which no dualist at the present time, so far as he knew, entertained. The induration of a primary chancre is very constant, but it may be entirely simulated by conditions which are not induration, so that all dualists have dropped the view that the initial lesion of syphilis is always indurated—in other words, that a given lesion is syphilitic simply because it is hard, and it is not syphilitic simply because it is soft, was not held to-day by any dualists. But that the initial lesion is generally hard, is what the dualists uphold. The absence of inguinal engorgement might as well be claimed by the

unicists as one of the irregularities in the expression of syphilis, nor did the dualists believe that the indurated chancre was necessarily a syphilitic chancre, but that it is very frequently so. The sore may be soft, the inguinal glands may be suppurating, and still the patient have syphilis. It had not been Dr. Keyes's experience to encounter a sore occurring within ten or twelve days after exposure which had turned out to be a syphilitic sore. The incubation period is one which requires great care in deciding its exact limit, and is, as Dr. Keyes thinks, a more valuable symptom of syphilis than the induration of a given sore.

DR. GERSTER said that his remarks did not refer so much to the practical study of the question as to the statement made by Dr. Keyes that the dualistic theory had brought order out of chaos. He thought that chaos had been much more firmly established by the doctrine of dualism, and that the dualistic theory is artificial and not based upon the natural history of the disease, and that it is unphilosophical. It is practically useful in most cases, to be sure, but it does not give a real and satisfactory explanation of the relation of the initial sore to the subsequent phases of the disease.

DR. KEYES said that it certainly produced practical cure, and he should be very glad to put the word practical before the words which he had used in his paper. Practically it reduces the matter to a chaotic state, to say, that all sores, whether soft or hard, are syphilitic, and reduces the surgeon logically to the necessity of treating the patient with mercury because of the fear of the development of syphilis. This is much less philosophical and less useful than the dualistic theory, which involves the use of mercury in the treatment of only one class of cases.

DR. GERSTER believed that inasmuch as it had been taught by Sigmund that syphilis should be treated symptomatically, that is, not until it manifested itself unmistakably, the objection set forth by Dr. Keyes fell away.

DR. KEYES said that it would fall away except that the natural sequence of the statement that all chancres are syphilitic would be to treat them as for syphilis. The logical conclusion of unicism, as it seemed to him, was that all sores should be treated as if they were to be followed by syphilis, which would be an error, and would have a deplorable effect upon patients in general.

DR. GERSTER: That is an error, certainly, but what we are after is the truth, and not the effect which it will produce upon the community.

DR. A. C. POST presented a specimen of

THROMBOSIS OF THE BRACHIAL ARTERY, OCCURRING FROM PRESSURE OF THE WEIGHT OF THE BODY.

The patient was a feeble man, 58 years of age, who had been bedridden for nine months with myelitis and paralysis, and loss of power over the urine and feces. Two days before death he slept with his right arm under the back, and awakened with pain and a feeling of tingling and numbness, and about an hour later the arm was seen to be white and was cold and pulseless. On the next day there was discoloration about the elbow, which in the evening had extended to the shoulder. The specimen was presented to him by Dr. Waitzfelder, and showed the upper third of the brachial artery distended with a firm clot.

FIXATION OF THE BONES AFTER RESECTION OF THE KNEE-JOINT.

DR. C. K. BRIDDON described a method which he had used, consisting in the driving in of four nails, each about three inches in length, two in the sides of the lower end of the femur, and two in the sides of the upper end of the tibia, and suturing them with copper wire. The nails should be driven in about half an inch from the cut surface, and should be left projecting about an inch and a half to prevent the copper wire from becoming buried in the integument. It was also important to approximate the skin flaps before driving in the nails. The nails were held firmly in position by making a figure of eight loop around them close to their heads, and in the two cases in which he had employed this method immobilization was complete.

DR. MCBURNEY said that the method seemed to do away with one objection which had been urged against nails, as it seemed applicable to cases in which the ends of the bones had been largely excavated by abscesses.

CORRESPONDENCE.

CHOLECYSTOTOMY AND CHOLECYSTECTOMY.

To the Editor of THE MEDICAL NEWS.

SIR: I have just read an article in your valuable paper upon cholecystotomy and cholecystectomy, in which you compare the relative advantages of the two proceedings upon figures which I think are erroneous. Thus, you give six cholecystectomies with one death, or a mortality of 16.66 per cent., whereas the fact is, according to Langenbuch himself, that there have been six cases performed, with three deaths, giving a mortality of 50 per cent. I do not think it is fair at all to estimate the value of any operation by a heterogeneous collection of cases from a number of operators, the majority of whose experience is limited to one or, at most, two cases. It is much more fair to judge of the value of the operation from the experience of one man who has had a fairly large number of cases. I have now performed cholecystotomy fifteen times without a death, and I think that that is an argument sufficient to justify me in saying that it contrasts very favorably with Langenbuch's operations in his own hands. Also that I am entitled to emphasize my previous opinion that cholecystectomy is an "intrinsically absurd operation." I am, sir,

Yours very truly,

LAWSON TAIT.

7 THE CRESCENT, BIRMINGHAM.
April, 1885.

[In the article referred to by our esteemed correspondent the figures are correct, and we invite Mr. Tait to refer us to any published or private statement in which "according to Langenbuch himself there have been six cases performed, with three deaths, giving a mortality of 50 per cent." The truth is that Langenbuch has recorded in the *Berliner klinische Wochenschrift*, Nos. 51 and 52, 1884, five cases, of which one proved fatal, in which he excised the gall-bladder. The sixth case is recorded by Courvoisier in the *Correspondenzenblatt für Schweizer Aerzte*, No. 15, 1884, so that 6 examples of cholecystectomy indicate 1 death, or a

mortality of 16.66 per cent. That this is a very fair result is shown by the fact that 36 cholecystectomies have furnished 8 deaths, or a fatality of 22.22 per cent., so that we still entertain the view that cholecystectomy is not so "intrinsically absurd" an operation as Mr. Tait still insists that it is.

As Mr. Tait has fully tested incision and drainage, we trust, in view of these correct statistics, and of the unequalled opportunities that he has in this class of cases, that he may be induced to give excision of the gall-bladder an equally fair test. When this has been done, his views, based upon actual experience, and not upon theoretical objections, will be entitled to serious consideration.—Ed.]

NEWS ITEMS.

NEW ORLEANS.

(From our Special Correspondent.)

The American Medical Association Meeting.—The Local Committee of Arrangements have secured the Tulane Hall and the whole of the Medical Department for the General Meetings and the Sessions of the Sections.

The General Meetings will be held on Tuesday, April 28th, at 11 A.M., and on Wednesday, Thursday, and Friday at 10 A.M. The Sessions of the Sections will be held in the seven rooms selected for the purposes at 3.30 P.M.

Registration will be attended to on the lower floor of the College building. There will be three rooms, the largest of which will be divided into four departments. The Committee will require four registry clerks, four cash clerks, one doorkeeper, one messenger, one card clerk, one postmaster, one hotel clerk. The registration office will be open on Monday from 10 A.M. to 12.30 P.M., and from 4 to 6 P.M. On Tuesday, Wednesday, and Thursday from 9 A.M. to 12 M. and from 4 to 6 P.M. On Friday from 9 to 10 A.M. On Friday, perhaps earlier, a member of the Transportation Committee will be on hand to give information as to railroads, depots, etc.

The Transportation Committee announced that the rates now in force for Exposition visitors are the best obtainable.

Exhibitors before the Association have been assigned spaces in the College building convenient to the members.

The following programme has been prepared:

Tuesday, April 28th.—*The General Session* meets at Tulane Hall, Dryades St., between Canal and Common Sts. The Association will be called to order by Dr. Samuel Logan, Chairman of the Committee of Arrangements. After prayer, the President, Henry F. Campbell, M.D., of Augusta, Georgia, will be introduced. An Address of Welcome will then be delivered by Samuel Logan, M.D., after which the President will deliver his *Annual Address*. Austin Flint, M.D., Chairman of the Special Committee to take action in regard to the death of Prof. S. D. Gross, M.D., LL.D., will then report. New and miscellaneous business will then be in order.

The Section on Practice of Medicine, Materia Medica, and Physiology, will meet at Tulane Hall at 3.30 P.M. Dr. H. D. Didama, of Syracuse, N. Y., Chairman. The following papers will be read:

The Treatment of Carbuncle without Incision, by L. Duncan Bulkley, M.D., of New York.

Syphilis as it appears among Negroes, by Thomas F. Wood, M.D., of Wilmington, N. C.

Practical Suggestions in the Administration of Iodide of Potassium in the Treatment of Syphilis, by Morris H. Henry, M.D., of New York.

The Percuteur: Its use in Diseases of the Nervous System, by A. F. Potter, M.D., of Boston.

Hydatid Tumors of the Brain, by N. Harvey Reed, M.D., of Mansfield, Ohio.

Ulcer of Rectum, by A. Atkinson, M.D., of Baltimore.

Some Inquiry Concerning the Resources of Non-medicinal Therapeutics, by Samuel S. Wallian, M.D., of Bloomingdale, N. Y.

Section on Obstetrics and Diseases of Women and Children, Dr. R. S. Sutton, of Pittsburg, Pa., Chairman. The following papers will be read:

The Treatment of the Secundines in Abortion and Labor, by W. H. Wathens, M.D., of Louisville.

Pelvic Peritonitis: Suggestions as to Cause, Recognition, and Treatment, by W. M. Polk, M.D., of New York City.

Chronic Periuterine Abscess, its Treatment by Laparotomy, by Christian Fenger, M.D., of Chicago.

Parametric Abscess, by W. W. Potter, M.D., of Buffalo.

How soon after Exposure to Sepsis may the Accoucheur resume Practice? By George F. French, M.D., of Minneapolis.

Section on Surgery and Anatomy, Dr. Duncan Eve, of Nashville, Chairman. The following papers will be read:

False Doctrine in the Treatment of Fractures, by John B. Roberts, M.D., of Philadelphia.

Clinical Observation on the Treatment of Varicocele, by Morris H. Henry, M.D., of New York.

Section on Ophthalmology, Otology, and Laryngology, Dr. J. A. White, of Richmond, Va., Chairman. The following papers are announced to be read:

Two New Forms of Spray Apparatus: A New Electro-cautery and New Electric Lamp, by W. C. Wile, M.D., of Sandy Hook, Ct.

Ossification of the Choroid with Sympathetic Ophthalmia, illustrated by sections of an enucleated eye, by H. B. Tiffany, M.D., of Kansas City.

Section on Diseases of Children, Dr. J. H. Pope, of Marshall, Texas, Chairman. Papers will be presented on:

Acute Inflammation of the Bones During Period of Growth, by Edward Boeck, M.D., of St. Louis.

Repeated Doses of Castor Oil in Certain Skin Diseases in Children, by L. Duncan Bulkley, M.D., of New York.

Section on Oral and Dental Surgery, Dr. W. W. Allport, of Chicago, Ill., Chairman. The following papers will be read:

Cocaine, by John S. Marshall, M.D., of Chicago, Ill.

The Alternation of Rest with Effort, by Jacob L. Williams, M.D., of Boston.

On Wednesday, April 29th, in the *General Session*, the *Address in Medicine* will be delivered by H. D. Didama, M.D., of Syracuse, Chairman of the Section on Practical Medicine, and the *Address in Obstetrics*

and Gynecology by R. S. Sutton, M.D., of Pennsylvania, Chairman of the Section of Obstetrics.

Dr. W. C. Van Bibber, of Maryland, will then make some suggestions in regard to the construction of a Health City in Florida, or, Peninsular and Sub-peninsular Air and Climate.

In the *Section on Practice of Medicine*, the following papers will be read:

A Uniform Nomenclature of the Physical Signs which Occur in Connection with the Respiratory System, by Austin Flint, M.D., of New York.

The Relation of Clinical Facts to the Question of Contagiousness of Phthisis Pulmonalis, by N. S. Davis, M.D., of Chicago.

Fever as a Neurosis, by H. C. Wood, M.D., of Philadelphia.

Mineral Foods, and how to give them, by R. J. Nunn, M.D., of Savannah.

The Treatment of Diseases by Hypodermatic Injections of Oils, by J. V. Shoemaker, M.D., of Philadelphia.

The Specific Treatment of Enteric Fever, by James C. Wilson, M.D., of Philadelphia.

Cardiography, by A. T. Keyt, M.D., of Cincinnati.

In the *Section on Obstetrics and Diseases of Women*, the following papers will be read:

A paper, the title of which is to be announced hereafter, by George J. Englemann, M.D., of St. Louis.

A New Speculum and a New Vaginal Irrigator, by T. M. Healey, M.D., of Cumberland, Md.

The Role of Bacteria in Parturition, by Henry O. Marcy, M.D., of Boston.

Vaginal Hysterectomy for Cancer, by A. Reeves Jackson, M.D., of Chicago.

The Ring of Bandl, by W. W. Jaggard, M.D., of Chicago.

A New Wire Speculum, by C. W. Wile, M.D., of Sandy Hook, Conn.

The Multiple Speculum Uteri and an Improved Dressing Forceps, by R. J. Nunn, M.D., of Savannah.

In the *Section on Surgery and Anatomy*, the papers announced are:

The Surgical Treatment of Cysts of the Pancreas, by N. Senn, M.D., of Milwaukee.

Two Successful Laparotomies on the same Patient, by Joseph Ransohoff, M.D., of Cincinnati.

In the *Section on Ophthalmology, Otology, and Laryngology*, papers will be read on

Determining Errors of Refraction by Double Images and by Parallax, by T. E. Morrell, M.D., of Little Rock.

A Case of Hereditary Glaucoma, by Herbert Harlan, M.D., of Baltimore.

In the *Section on Diseases of Children* the following papers are announced:

Successful Results of a New Treatment of Diphtheria, by R. J. Nunn, M.D., of Savannah.

The Treatment of Diphtheria in Children, by H. R. Kelly, M.D., of Gallion, Ohio.

In the *Section on Oral and Dental Surgery* papers will be read on

Epulis Tumors, by Truman W. Brophy, M.D., of Chicago.

A Case of Sarcoma of the Lower Jaw, with Successful Removal, by Oscar J. Coskery, M.D., of Baltimore.

THURSDAY, APRIL 30TH.—In the *General Session* reports will be made by the Committee of Arrangements, Committee on Nominations, and the Standing Committee on Meteorological Conditions and Their Relation to the Prevalence of Diseases. Also concerning the subject of Collective Investigations of Disease in coöperation with the Committee of the British Medical Association, by N. S. Davis, M.D., of Illinois, Chairman.

The *Address in Surgery* will be delivered by Duncan Eve, M.D., of Tennessee, and that in *State Medicine* by E. W. Schauffer, M.D., of Missouri.

The reports of the Treasurer, Librarian, and Committee on Publication will then be in order.

In the *Section on Practice of Medicine* the following papers are announced:

Cholera and its Treatment, by J. H. Hollister, M.D., of Chicago. The discussion will be opened by Dr. Austin Flint.

Hemorrhagic Malarial Fever, by Jerome Cochran, M.D., of Montgomery, Ala.

The Differentiation by Means of Pitch of Pulmonary Signs Obtained by Auscultation and Percussion, by Austin Flint, M.D., of New York.

The Germ Theory, by Harold C. Ernst, M.D., of Bost.

Blood and How to make It: Fat and How to Reduce It, by Benjamin Lee, M.D., of Philadelphia.

Resorcin: Its Therapeutic Use, by A. F. Potter, M.D., of Boston.

Similarity of Electrical and Nerve Force, by J. J. Caldwell M.D., of Baltimore.

In the *Section on Obstetrics*, papers will be read on:

Treatment of the Pedicle, by Thaddeus A. Reamy, M.D., of Cincinnati.

Emmet's Operation: When shall It and when shall It not be Performed? by Gustav Zinkle, M.D., of Cincinnati.

Notes on Surgical Gynecology, by Horatio Bigelow, M.D., of Washington, D. C.

The Uterine Stem in Flexions of the Uterus, by Geo. B. F. Fundenberg, M.D., of Pittsburg.

Reasons for, and Results of, some Cases of Tait's Operation, by S. C. Gordon, M.D., of Portland, Me.

A Report of a Cæsarean Operation, by E. W. Jenks, M.D., of Detroit.

In the *Section on Surgery and Anatomy*, Dr. A. Y. P. Garnett, of Washington, D. C., will read a paper on Colo-proctitis Treated with Hot-water Douche and Stretching or Division of Sphincter Ani.

In the *Section on Ophthalmology, Otology, and Laryngology*, Dr. J. F. Fulton, of St. Paul, Minn., will present a paper on The Relationship of Errors of Refraction to Headache.

FRIDAY, MAY 1ST.—In the *General Session*, at 10 A. M., after the reports of the Committee of Arrangements, and of the Committee on Nominations, the *Address in Ophthalmology* will be read by Dr. J. A. White, of Virginia, the *Address in Diseases of Children*, by J. H. Pope, M.D., of Texas, and the *Address in Oral and Dental Surgery*, by W. W. Allport, M.D., of Illinois.

After the transaction of miscellaneous business, the Association will then adjourn.

A committee of ladies will give a reception and ball, which promises to be the most elegant and select affair of its kind given here for a long time. Many private receptions and dinners are also proposed.

Members will be assisted in finding quarters upon their arrival, and the Bureau of Accommodation on Gravier St., opposite the St. Charles Hotel, will be of great service to those who seek rooms.

VIRGINIA.

(*From our Special Correspondent.*)

Medical Examining Board of Virginia.—The State Board of Medical Examiners of Virginia held its first meeting for the examination of applicants on April 8 and 9, 1885.

Under the "Act to regulate the practice of Medicine and Surgery," passed during the session of the Legislature in 1883 and 1884, all persons who propose to practise medicine in Virginia and who have not been licensed *in this State* at any time prior to January 1, 1885, are required to pass a satisfactory examination either before the Board in session or any three individual members of that Board whom the applicant may select. Graduates and non-graduates are subjected to precisely the same examination.

Prior to the meeting of the Board two candidates for practice had stood an examination before three individual members of the Board; one of these applicants passed a satisfactory examination, the other was rejected.

There were twenty-five applicants before the Board at its recent session, all but one of whom were graduates, of this number *nineteen* passed a satisfactory examination and *six* were rejected.

The rejected applicants are required by law to wait three months before they can again apply for examination.

There seems to have been an impression in some quarters that the examination of *graduates* would be a mere matter of form; we trust that the result of the recent examination will prove that this view is altogether erroneous.

Nearly all of the applicants were strangers to the members of the Board, and their place of graduation, if they were graduates, was known only to the President and Secretary.

The Medical Association of the State of Alabama.—The thirty-seventh annual meeting of this association was held at Greenville, on April 14–17. The President, Dr. Benjamin N. Riggs, of Selma, in the Chair. One hundred and four members were present, being an unusually large number. The following were elected officers for the ensuing year.

President.—Dr. F. M. Peterson, of Greensboro.

Vice-Presidents.—Dr. Starr, of Wilcox County, and Dr. Richard M. Fletcher, of Madison County.

State Board of Censors.—Drs. Riggs, Dement, and Ketchum.

Councillors.—Drs. Herbert, Goodwin, Bragg, J. B. Kendrick, Norris, Wheelan, Nicholson, Lowry, and Inge.

Members of the State Board of Health.—Drs. Riggs, Ketchum, and Dement.

Orator.—Dr. Bragg, of Lowndes.

The Association voted to meet at Anniston next year.

The American Journal of Neurology and Psychiatry.—We regret to learn that the publication of this valuable journal ceases with the April number.

The Atlanta Medical College.—The annual commencement exercises of the Atlanta Medical College were held March 2, 1885. The graduating class numbered forty-one.

The Southern Medical College.—The commencement exercises of the Southern Medical College were held March 4, 1885. Thirty-two graduates received the degree of M.D.

The Columbus Medical College held its tenth annual commencement March 3, 1885. The number of graduates was eighteen, a falling off of nearly 50 per cent. from the previous year.

Chicago College of Physicians and Surgeons.—The third annual commencement of the Chicago College of Physicians and Surgeons was held on March 10, 1885. The President conferred the degree of Doctor of Medicine upon sixty graduates.

The Detroit Medical College.—The commencement exercises of the Detroit Medical College took place in Detroit on the 2d of February, 1885. Nineteen graduates received the degree of M.D.

The Michigan College of Medicine held its annual commencement March 4, 1885. Twenty-one graduates received the degree of M.D.

A New Medical School in St. Paul.—It appears assured that a medical school will be established in St. Paul during the present year; the St. Paul members of the Minnesota College Hospital having resigned and having received responsible promises of the necessary funds for a school in their own city.—*Northwestern Lancet*, April 15, 1885.

French Surgical Congress.—The French Surgical Congress was inaugurated on Monday, April 6th, with Professor Trélat, President of the Committee on Organization, in the Chair.

The seven members of this committee, MM. Trélat, Verneuil, Horteloup, Chauvel, Monod, Pozzi, Bouilly, were chosen by acclamation as members of the permanent committee.

M. Trélat was elected President of the Congress for 1885. It is proposed to have an annual session.

A New Medical Clinic has been established at Vienna, under the direction of Professor V. Schrötter. This step of the College of Professors is generally applauded, and the appointment of Professor Von Schrötter is regarded as eminently satisfactory, and will at once inspire confidence in the operations of the clinic.

Professor Huber will assume the position left vacant in Leipzig, by Professor Birch Hirschfeld's removal to Dresden.

Prize Essay on the Prevention of Blindness.—The English Society for the Prevention of Blindness having offered a prize of 2000 francs for the best essay on the causes and prevention of blindness, the international jury appointed to decide upon the relative

merits of the papers presented, has awarded it to Dr. Fusch, of Germany.

Digital Divulsion of the Cardiac Orifice of the Stomach.—On the 23d of February, Prof. Loreta, in the surgical clinic of Bologna, performed the operation of digital divulsion of the stomach for the seventh time with excellent result.

The condition of the patient is in every way favorable, and complete success is expected.

Dr. Bouchardat, Professor of Hygiene in the Paris Faculty, after a service of nearly forty years, has retired, and his name is transferred to the list of Honorary Professors.

Professor Seegen, who for many years has been a practitioner in Karlsbad, has abandoned the practice of medicine, in order to devote himself exclusively to physiological and experimental research.

The Jaksch Jubilee.—Dr. Jaksch, whose name is so intimately connected with the Prague Medical School, celebrated on the 19th of March his fiftieth anniversary.

His excellent service as a successful clinical teacher and fame as a skilful diagnostician are recognized throughout the world, and the many congratulations received on the celebration of this jubilee are a mark of the high esteem in which he is held by his former pupils and associates.

The Hyrtl Jubilee.—The Hyrtl Jubilee, celebrating the fiftieth anniversary of the medical career of Dr. Josef Hyrtl, took place in Vienna on the 23d of March ult. Congratulatory communications were received from all parts of the world.

Deputations comprising representative talent from the various Vienna institutions, proffered their congratulations to the venerable Professor, in addresses fitly expressing appreciation of his eminent services to science, and overflowing with assurances of esteem and goodwill. Professor Hyrtl, who is now eighty years of age, and almost entirely blind, briefly responded to the speech of Professor Zschokke, Rector of the College of Professors of the Vienna University, and also made a short address to a delegation of medical students. At the conclusion of the formalities a rich repast was served, at which Professor Hyrtl presided.

Violation of Professional Secrecy.—The suit against Dr. Watelet, for having divulged a "professional secret," to which we referred in our issue of April 4th, has resulted in the imposition of a fine of 100 francs.

Further evidence of the caution which should characterize the conversation of a physician in relation to his patients on points a knowledge concerning which he has gained in his professional capacity, is shown by the following, which we extract from the letter of *The Lancet's* Paris correspondent (April 4, 1885):

A physician, who was also a pharmacien, but who practised only in the latter capacity, lately died. Dr. Constantine Paul, in announcing the event at a meeting of the Société de Thérapeutique, of which the deceased gentleman was a member, stated that death was caused by tubercular meningitis, of which he had an attack ten years previously. The insurance company in which the deceased had insured his life for 200,000 francs, or £8000, having taken note of this circumstance, has refused to pay the widow, on the grounds that her husband's life was insured subsequent to the attack he had ten years before, he being at the time the subject of a fatal malady which eventually carried him off. The case, which is interesting from more than one point of view, is pending, and it is said that if the insurance company should persist in their refusal, Dr. Constantin Paul will be prosecuted for divulging a professional secret. Examples of this kind are daily to be met with, for we see in the medical and lay papers full descriptions of maladies of persons of note, ante-mortem and post-mortem.

NOTES AND QUERIES.

HAGERDORN'S NEEDLE HOLDER AND NEEDLES.

To the Editor of The Medical News.

Sir: Those desiring the above will find Frick Bros., surgical instrument makers, Ohio Street, Allegheny, Pa., prepared to fill their orders. They have my set to copy from. Some needles made in New York were shown me last week. They are not correct. Yours truly,

R. S. Sutton.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM APRIL 14 TO APRIL 20, 1885.

McParlin, T. A., *Lieutenant-Colonel and Assistant Medical Purveyor U. S. Army.*—Sick leave extended three months on surgeon's certificate of disability.—*S. O. 88, A. G. O.*, April 17, 1885.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE WEEK ENDING APRIL 18, 1885.

Yemans, H. W., *Assistant Surgeon.*—Detailed as medical officer, revenue steamer "Corwin" during cruise, April 16, 1885.

Battle, K. P., *Assistant Surgeon.*—When relieved to proceed to New Orleans, La., for duty, April 13, 1885.

Brooks, S. D., *Assistant Surgeon.*—Granted leave of absence for ten days, April 16, 1885.

Bailhache, B. H., *Surgeon.*—Chairman of Board for physical examination of candidates for appointment as Assistant Engineer, Revenue-Marine Service, April 6, 1885.

Vansant, John, *Surgeon.*—Chairman of Board for physical examination of officers of the Revenue-Marine Service, April 11, 1885.

Purviance, George, *Surgeon.*—Granted leave of absence for one week, April 6, 1885.

Stoner, G. W., *Surgeon*—Member of Board for physical examination of candidates for appointment as Assistant Engineers, Revenue-Marine Service, April 9, 1885.

Godfrey, John, *Surgeon.*—To represent Service at annual meeting of American Medical Association, April 11, 1885.

Goldsborough, C. B., *Passed Assistant Surgeon.*—To proceed to Pascagoula, Miss., as inspector, April 8, 1885.

Carter, H. R., *Passed Assistant Surgeon.*—Member of Board for physical examination of officers of the Revenue-Marine Service, April 11, 1885.

The Medical News *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the News *should be addressed to No. 1004 Walnut Street, Philadelphia.*

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. XLVI. SATURDAY, MAY 2, 1885. No. 18

AMERICAN MEDICAL ASSOCIATION.

THIRTY-SIXTH ANNUAL MEETING, NEW ORLEANS, 1885.

THE PRESIDENT'S ADDRESS.

Delivered April 28, 1885.

BY HENRY FRASER CAMPBELL, M.D.,

PROFESSOR OF SURGERY AND GYNECOLOGY IN THE UNIVERSITY OF GEORGIA, AUGUSTA.

GENTLEMEN OF THE AMERICAN MEDICAL ASSOCIATION: At the last meeting you cordially conferred upon me the honor to elect me President of this Association. We all justly esteem it the highest position in the gift of the American medical profession. I am fully sensible of my own unworthiness, and also of the far higher claims of many others, to the office you have accorded me. Let me aver to you my high appreciation of your generous recognition of the South, and of the great Southern State I represent; and for myself, I return you the thanks of a warm fraternal heart, for the kind partiality which has guided you in your decision.

THE PAST AND THE PRESENT.

Exalted as may be the position, by the grand objects of the organization, and by the long years through which it has exercised its improving and perfecting influence over the minds, and hearts, and destinies of the medical profession, the honor is still further emphasized by the long line of noble and illustrious men who have recently and in the past guided the deliberations of this National representative body. Look over the roll of honor—the roster of our rulers—from the venerated Chapman to the revered and beloved Flint, and we find, among both the living and the dead, names and the record of lives which fill our hearts with pride—brilliant lights who, like stars of the first magnitude, must for all time continue to illumine the firmament of our profession with the glow of their godlike benevolence, and the unquenchable fire of their genius—cosmopolitan, as well as national men—followed and quoted and honored—very Gamaliels, at whose feet the Pauls of every nation have sat, contentedly drinking in the inspiration of their wisdom, and taking example and encouragement from their daring and their enterprise.

Far lagging in the rear would have been the old world, had it neglected the record and the literature of the new! In the long line of our noble ancestry, among others who adorn the gallery of our progenitors, Rush and Physick, McDowell and Atlee, Deadrick and Smith, Dudley and Eve, Silliman and Hays, Mott and McClellan, Gross and Sims—some of these among the illustrious dynasty of this Association—have each opened to the minds of all nations new fields of science, of labor, and of literature, in which to energize; and, dying, have all left their impress deeply and ineffaceably graven upon the tablets of scientific progress of the old, as well as of the new world. Now, may we ask, who dares *not* to read?

I might well confine my glorying now to only our glorious dead—embalmed in the frankincense, and myrrh, and the conserving sweet-smelling spices of worthy and undying achievements; enshrouded in the spotless robes of their immaculate lives, they remain with us still, even our entailed inheritance—our inalienable trust—our household gods—the archetypes and guardians of this Association.

When we would turn our minds for a moment from the silent, but eloquent, and never-to-be-forgotten dead, to the active, progressive, and ever-hopeful living, we find, in the contemplation of the present, that our dream of the future may be as bright as has been our golden history in the past.

What means this large convocation of earnest, responsible men, this relinquishment of homes and of professional occupations? What means this sea of congregated heads, some burnished, some gray, and some of silvery white? What means this plane of upturned faces, some seamed and furrowed with lines of toil and anxious thought, others youthful, and bright, and hopeful, but all glowing with the inspiration of a noble enthusiasm, all eloquent of, and stamped with the seal of devotion to a common and holy purpose? Let me answer: What we behold is indeed a culmination of the past, but no less is it the prophecy and assurance of the future; some are here in the very outset of a prosperous career, some, midway in the journey which is to end in brilliant achievement, and others near the goal where the laurel and the crown of the victor await them for their perfected work.

These are the contemporaneous makers of the scientific history of our own times. I would gladly signalize and dwell upon their noble part, but I forbear to depreciate them by a trite and trivial mention of their names and work. Too numerous to accord to each his merited meed of praise, you, gentlemen, constitute the working body and stalwart supporters and defenders of the honor of this Association. To you we look for present labor, and to you we look for future glory.

But can all the living be thus passed by? Must our hearts forever yearn and yearn in silence to tell the honor, the reverence, and the love that burns within us? Must our "Bless you, my brother," and our "Well done, good and faithful," die ever "as a voiceless thought?" Who is it that has fought shoulder to shoulder with another in the veteran grand army of the world's campaigns, and has seen him fall out of the ranks, to rise no more; who is it that has stemmed with another the current of the mighty river of Time, or battled with the waves in the tempestuous ocean of life, and seen him suddenly and forever sink beneath the dark waters, and has not mourned the last word unspoken, and bitterly cried out, "Too late?" The good-will and the assurance he had been longing to utter have failed of their application, and they remain valueless in his tender heart like

"unused spices" in the hands of loving women at the Saviour's tomb.

Gross and Sims, illustrious in their lives, loved and honored in their death, the giants of our pride, and the sacred objects of our reverence, have passed beyond the sound of earthly praise. With shining robes more honorable than any toga of office we can put upon them, with crowns more resplendent than those of earthly monarchs, and with harps and melodies more entrancing than the music of our love, or the anthems of our praise, they hear no more the voice of human adulation. The protestations of love and gratitude, now uttered in the bitterness of our grief and in the magnitude of our irreparable loss, fail to unburden our hearts, and they return to us empty of their reward in the pleasure they *might* have given. We are now forever debarred from pouring into the living ear and into the throbbing heart all which custom withheld, and which now we would gladly tell. We indite memorials, we erect monuments, we build mausoleums, and the dead heed them not.

"Can storied urn or animated bust
Back to the mansions call the fleeting breath?
Can Honor's voice provoke the silent dust,
Or Flattery soothe the dull, cold ear of Death?"

Custom and convention allow praise, panegyric, and loud lamentation to the dead, but command silence and repression to the living, however loved and worthy, and however near their journey's end.

As I glance around this crowded assembly, as I cast my eye over the lengthened list of our membership, here and there among the buoyant, active workers of to-day, my glance becomes a gaze of pleasure, and my eyes brighten as they fall upon the familiar forms and read the names of some—now sadly few indeed—who in a former generation, and through all the toilsome, turbulent years between "then and now," have lovingly worked on, as they are working to-day. To many their faces are unfamiliar; to some the history of their early work and achievements in this Association are unknown. "A new Pharaoh has arisen which knoweth not Joseph;" which knoweth not their patience, their devotion, their inestimable work, and faithful stewardship in the past, as they see and esteem them now. It would be unparliamentary, at least, to call their names, but let me indicate in some degree the valuation and the worth we should set upon them.

I see before me more than one who, present at the first foundation of this Association, assisted—over a generation ago—in organizing out of the chaos of the medical profession of the United States this congenial, facile, and efficient body; multiple in its sections and departments, heterogeneous in its structure, pursuing in each division objects diverse and special, yet each contributing to form an organization powerful in the uprooting of ignorance and error—mighty and invulnerable in the defence and promulgation of truth.

Again, I have before me some still in the ripened prime of vigorous manhood, who were active in our halls and in our discussions over thirty years ago; some, holding honorable and laborious official stations then, are, by their own elections, most active as private laborers now.

Again, among this multitude can the anxious eye of friendship, long familiar with their forms, readily search out some in whose breasts not even the burthen of years, or the calamities and casualties of prolonged and laborious lives, could abate the honor and devotion they gave in the heyday of their early prime to this Association—once the child of their trembling hope, now the object of their pride and triumph.

Make haste to do honor to all these venerable men; our Nestors—the fathers of our history and the sires of our generation—honor them *now*, while still they walk in and out before you, and among the children of men. Let me voice for this Association, in their living ears and in glad gratulation to day, the avowal and the eulogy we may haply sob forth in bitter lamentation to-morrow—let us in manly frankness to-day pour into their throbbing hearts some little of the praise and commendation which to-morrow we may have to engrave in tearful sadness on the cold, insensate marble of their tombs.

Once more—and I will still remain impersonal in the familiar sketch I would portray—our eyes may at this moment rest with honoring gaze upon one who at the present time, and before the present generation of laborers in the field, might stand prominent amongst us only by the encouraging and ever-inspiring magnetism of his presence, and by the stupendous and self-sacrificing labor in which he is ever willing to engage. He labors now as he labored two-score years ago, well entitled to the honored name of "the father." No one of the sons of this Association can excel him in watchfulness for its interests, in tenacity for its honor, in unceasing labor for its advancement. No neophyte or tyro is he in its affairs; he presided at its birth, nursed it through infancy and childhood, was the guide and counsellor of its manhood, and now in its ripe maturity, adds spirit to its energies, watches its progress, faithfully guards its good name, and is the laborious chronicler and promulgator of its intelligence. Too full of the meekness of wisdom to be elated by praise, too worthy of praise to be defiled by flattery, and among all the living, standing foremost in the duration and constancy of his devotion, I could almost ask you to allow me, by virtue of the authority in which I am clothed, to bid him stand, as sovereigns bid their heroes kneel, and dub him with the ensign and the title "*Noblest Roman of us all.*"

Thus have I endeavored to illuminate my brief presentation of the past and of the present with pictures of the *personnel* of the Association—with portraits and groups of dead and living men. Let us honor, cherish, and hold sacred the memory of our illustrious dead; let us not fear to encourage and give solace to our long-suffering, faithful, and noble living.

OUR PLACE OF MEETING.

Already have I referred with cordial comment to your graceful recognition of the South in the appointment of the present place of meeting. Besides the bright sunshine and the balmy air redolent with the perfume of tropical fruits and flowers, enlivened by the glittering plumage and made musical by the sweet spring voices of winged choristers, there ever breathes in the atmosphere and throbs in the pulses of this monster mart a solemn and weird consciousness—a sanctity of association—which in the minds of our profession, neither time nor wide separation, nor diverse political opinions, nor even internecine war, have been able to profane or in the least obscure. The glorious

triumph of our States upon this ground over the foreign foe, their inglorious triumphs upon this ground over each other, when marshalled in mad and mortal but, on each side, manly and patriotic antagonism, fade from our minds when as physicians and philanthropists we remember "The pestilence that walketh in darkness and the destruction that wasteth at noonday." They here, too, often have been the invader and desolater, and here, too, have they often been met by the heroes of our profession, the noble and devoted defenders of the people.

Though with a health-bill and death-rate ordinarily bearing favorable comparison with other great cities of the Union, New Orleans has sometimes, like the happy valley or the peaceful hamlet of romance, become the scene of death and desolation, its bright homes clouded with sorrow, its prosperity changed to adversity.

How often, wherever we may have been, wherever our homes, whether in the green mountain fastness of health, in the torrid interior, or on the dented seacoast, how often, I repeat, have our minds and hearts been turned with fraternal sympathy and profound interest to our devoted brethren of this lovely city of the Gulf, battling with the destroyer, and nobly giving up comfort, and safety, and health, and life itself in a martyrdom to the love they bear mankind. Thus has this region become sacred and heroic ground with the medical chronicler and historian.

How changed is the present aspect. What magic metamorphosis do we find. The whilom shunned and dreaded pest-house of the nation has become the inviting and the crowded Mecca of the wide world's pilgrimage. From the remotest bounds of civilization the call has met response, and now are gathered here, in generous rivalry for excellence in the arts of peace, the representatives of all our States, and of nearly all the foreign nations.

Here are the products of agriculture, of manufacture, and of mines—the triumphs of genius, the achievements of ingenuity. Here, too, are the medals, mementoes, and heirlooms of the past, the proofs of progress in the present, and the unlimited foreshadowings of the future, all collected in one interminable tableaux and unbounded panorama, opening to view the most comprehensive exposition of the world's advance, making the grandest demonstration of man's triumph over the rebellious realm of nature, and of his divine right to subdue, and hold his kingly rule over her wealth, her potencies, and her potentialities.

May I not here congratulate this Association that in our customary annual wanderings, and by the generous hospitality of our brethren of New Orleans, we, too, have been brought to witness a scene so rare and rich in incident, and that we, too, have been made to act a part in a wonderful drama, so abounding in interest, instruction, and enjoyment?

Highly do we value the occasion, and well will we remember our coming to this commercial emporium of the South, and her grand Exposition of the world's progress; warm and grateful will ever be our memory of our brethren and of her people, opening wide their arms as hosts and entertainers of guests from every corner of the world's domain; profound and long will remain our admiration and our wonder for this lovely Crescent City, as she sits like a beautiful queen in stately dignity, commanding her far-reaching iron tributaries, while the great Father of Waters, the mighty monarch of the valley, rests his majestic head upon her lap, pays homage to her power, and pours his libation at her feet.

THE ASSOCIATION A REPRESENTATIVE BODY.

The spirit and intent of our American institutions are, in a certain view, aptly represented and illustrated in the organization and high objects of the American Medical Association. Like the National Congress, each meeting represents, with more or less accuracy and truthfulness, the tone, the energy, the progress, the various shades of opinion, and the sometimes widely differing results of observation and experience, as modified by climate, geographical and social conditions, population, and locality. To generalize and harmonize these diverse elements, and to educe from them laws compatible with the interest and for the general welfare and advance of the whole, is no more the object and the duty of the political National Congress than of this scientific National Association.

They are both representative bodies, each with a broad constituency; the one in the State legislatures and in the direct franchises of the people, the other in the State associations and other medical organizations that have honored and trusted them as delegates to represent and act for them at our annual meetings.

The bills read and discussed, whether originating in the House or Senate, or in a message from the President of the United States, when enacted into laws for the good of the people, are, as we may hold, no more effectual in the attainment of their ultimate and benevolent ends than are the principles evolved, and the perfection of methods accomplished, in the readings and discussions in the several Sections of the American Medical Association. They are each and equally for the enlightenment and guidance of the two great constituencies represented; ours a constituency of unequalled intelligence and benevolence, the noble, humane, and learned medical profession to the remotest bounds of our country. To remedy what may appear to be defects in organization; to supply what may seem to be deficiencies in legislation, is the privilege and the duty of each of these representative bodies, at the time of their convocation or assembling.

A message from the Executive, as I have said, may originate discussion having in view improved or altered legislation in Congress. It is by no means without precedent that the deliberations of this Association may be sometimes influenced by propositions from the Chair. Some of our most important and valuable measures bearing upon our progress and welfare have been thus brought to our consideration—the transformation of our publication of the Transactions of the Association from an annual, tardy, and ponderous volume into a weekly journal, promptly and rapidly presenting our work not only to the members, but to the entire profession, as the proposition of President Lewis A. Sayre, at New York; and the invitation for the Ninth International Medical Congress, to meet in the United States in 1887, as the proposition of President Austin Flint, at Washington, are important and notable instances in which great benefit and improvement to the medical profession of this country will result from action inaugurated

by and emanating from the Chair of this Association;—or, to continue the worthy parallel I have begun, by a message from the Executive to the Legislative Department of this Association.

By a careful consideration and review of the Constitution and organization of this Association, it will be found that the wisdom and forecast of our predecessors have left but little to amend, whereby we can add to the facility of its work or to the scope and comprehensiveness of its design.

THE WORK OF THE ASSOCIATION.

No message from the Chair of the present meeting can equal in their importance some of those fundamental changes heretofore made, as in the organization of Sections and Committees whereby the present perfection has been attained—none yet to be made, so far as can now be seen, can equal in immediate and wide utility and improvement, both to the Association and to the medical profession, that proposition by which the journalizing of the Transactions has been accomplished; and it may also be stated that none has ever been received with more favor and cordial assent than that by which we are to receive the incalculable benefits resulting from the acceptance of the invitation for the Ninth International Medical Congress to meet in America.

The publication of the *Journal* may now be regarded as an assured and satisfactory success. In its first two most trying and perilous years, the foundation has been laid for an influential and commanding future. It has already secured constant communication and comity among the membership of the Association, and it will unquestionably, in time, become the means of organizing for good the entire medical profession of the United States, while the International Medical Congress in America will bring this Association and the medical profession of the world in direct and intimate relation; incorporate us with the scientific organizations and with the advancing and progressive researches of all the foreign nations.

As a member of the Board of Trustees having in charge the publication of the *Journal*, and also as one of the General Committee having in charge the invitation and organization of the Ninth International Medical Congress, and being intimately conversant with the stupendous labors and embarrassing difficulties involved in both these enterprises at their outset, it affords me pleasure to state from this chair that a full amount of praise and commendation are due to the Editor of the *Journal* and to the executive officers of each of these two great trusts. They have faithfully and laboriously brought them both to a state of progress assuring of brilliant and permanent results.

Notwithstanding the apparent completeness of our organization, and the generally satisfactory operation of our working plan, I will ask in this brief portion of the hour usually allotted to the President's Address, to make reference to a matter of recognized importance to the medical profession, and which, it has long appeared to me, should at some early period in the future be made one of the subjects of our diligent and regular investigation; at least engaging our frequent consideration, if not made one of the departments for the annual readings and discussions in one of the Sections.

The subject I refer to has ever been justly regarded as one of much complexity, difficult to present clearly, and still more difficult to expound and elucidate. It is no less one, however, which will be recognized by all as deeply involving, if not compromising, the comfort and welfare, and, still more, the dignity and honor of our conscientious, learned, and lordly profession.

I would comprehensively state the problem—for it well deserves that name—as "The relations of the medical profession to tribunals of laws," or, as I have heretofore more briefly summarized it—

THE DOCTOR IN THE COURTS.

That the position of the medical witness, and, to a certain extent, all professional and expert testimony before the courts of law, is anomalous, and often one of false relation to justice, as well as to the ends of humanity, and sometimes mortifying to the pride and self-respect of the deponent, few will deny; for but few have been so fortunate as to escape the annoying experience of being at one time or another the subject of such arraignments—happy has he been who has had only his intelligence and his integrity assailed, and happy, too, that no malpractice suit has deprived him of his liberty and living as well.

My object is more to bring the position of the medical man summarily before you, as he stands in his several relations to the tribunals of law, rather than to describe minutely that with which we are already familiar, or to present elaborate arguments to establish the existence of evils of which we are already convinced. I will, therefore, briefly refer to only a few of the more prominent *rôles* in the forensic drama (too often a farce), in which he is often forced to play his part, and in which, though he may be repeatedly *encored*, he seldom elicits applause.

At the present time, and in the eyes of most communities, the plane to which the medical deponent and expert has at last gravitated is but little above that of the ordinary, if not the partisan, witness. The light of scientific truth he sheds is even sometimes suspected as coming with bent and refracted rays through the distorting lens of self-interest and a paid opinion. From circumstances which condition his testimony, he seldom now occupies in this country the honorable position of *amicus curiæ* or friend and instructor of the court on scientific questions, upon which may rest an important judicial decision. He is almost invariably presented as the medical witness, or the medical expert in behalf of one side or other of the case upon trial. He is cited to appear as a witness in its behalf more frequently, not because he possesses superior knowledge of the scientific truths about which his testimony is to be conversant; not because his medical opinion *per se* is entitled to more confidence than that of another, and, still less frequently—we could hope, never—because he has been suborned; but he is often selected because, with a certain standing in the community, he is known to hold opinions, or, on the representation of the attorney, can be made to adopt opinions favorable to the side on which he is to depose. Quite often his only claim to the character of a medical expert depends upon a summons thus conditioned. The reliance upon medical testimony and, in time, confidence and respect for the

medical profession, must necessarily be depreciated by such exponents of them both.

Professor Washburn, of Cambridge, quotes the following words of Lord Campbell in addressing the House of Lords in regard to scientific testimony in general: "What are called scientific witnesses come with such a bias on their minds to support the cause in which they are embarked, that hardly any weight should be given to their evidence."

Without further general remark, I will here refer more or less briefly to the three principal positions or attitudes in which, as professional men, we most frequently stand related to the tribunals of law, viz.: first, as the medical witness; secondly, as the medical expert; and, thirdly, as a defendant in suits of malpractice.

In each one of these relations it could readily be shown that the medical man labors under disadvantages which do not, in the same degree, embarrass either the testimony or the defence of any other class of citizens. This is not the occasion to enumerate them, much less to put them under discussion. They have been long and fully recognized by the members of our own profession, while some of the most profound and astute minds of both the bench and the bar have diligently studied and yet have failed to remove them. For the deponent, whether medical witness or expert—and here we can consider them together before the jury—these difficulties often arise from the unlimited number and diversity of facts, and sometimes of principles, necessarily used as predicates for medical induction, and from the unavoidable complexity apparently connected with the reasoning by which conclusions, often perfectly legitimate, are arrived at. Thinking in technicalities, he is yet called upon to express himself in the plainest vernacular, often before an ignorant jury, or at least in terms simplified for the ready comprehension of non-professional minds.

This last requirement is often violated; not always from a pedantic inclination, but from embarrassment under the novelty of the situation and from the little familiarity with and thought given to questions in forensic medicine, and to the object of medical testimony as being instruction to the jury. He may be like Moses, "learned in all the wisdom of the Egyptians," but if he deposes only in the Egyptian dialect, only an Egyptian jury can be enlightened by him.

Not alone in our own country, but at a still earlier date, and apparently with even a more sedulous care, have the forensic wisdom and ingenuity of foreign judicatories been exhausted in various attempts to elevate the position and to render more available to the ends of justice and equity the scientific witness and expert. Prussia, recognizing the evils of ignorant and unworthy experts in the medical profession, as well as in all others, from which scientific testimony has to be elicited in grave questions pending before the courts, has a toxicologist appointed by the Government, and a permanent commission of experts in matters connected with medical science. In Scotland, medical witnesses are said to deliver their examinations in writing, but are subjected to oral cross-examination before the court; in France, the judges decide who shall act as experts in certain cases, also what questions shall be submitted to them, the answer being returned to the jury in writing; "and practically it is said to have the weight of conclusive evidence."—*Washburn.* "In England," continues Professor Washburn, "much speculation and various schemes have been suggested for obviating the objectionable features of expert testimony, but thus far without the adoption of any system."

It will be seen that all these efforts, both in the United States and in the several countries of Europe, comprehend all scientific experts, and among them the medical deponent. They are not made in behalf of the witness, either to elevate his position or, except incidentally, to recognize the high order of his testimony, but only to guard against his oft-time ignorance and unworthiness, and to make his testimony available to the courts. In most of the European courts mentioned, however, there is an incidental protection given to the scientific medical witness from the assaults and indignities offered by the examiner and the advocate.

In the United States, even, this incidental protection is rarely enjoyed by the medical profession. Often each side calls its medical expert, and his testimony, whether scientific or ignorant, impartial or partisan, is dealt with in open court by the advocates and examiners, at whatever cost to the witness, so that it can be made only to subserve the interest of one or the other side. Quite often the cause of justice is lost sight of, the significance of the deposition perverted by the artful methods of the examiners, and the casting of doubt on its credibility by the advocate. He is, as a witness and also as an expert, subject in his deposition to the arbitrary, and sometimes offensive, and often irrelevant interrogation of the interested attorney, whose duty it may become to misinterpret, or to suppress the significance of his testimony, and not infrequently to wrest it to the ends of that which, though the common practice of the law, are not the ends of equity and justice. In this way can the profoundly scientific and strictly conscientious medical witness or expert, on account of the inherent difficulties of his deposition, as before stated, more than any other class of witnesses, be made to appear to the average jury and to all ordinary minds present in the light of a crafty charlatan—the tool of some hidden interest guiding and directing his testimony.

Albeit the situation is one of grave and deplorable falsity and humiliation, I may here, for its aptness, perhaps not improperly indulge in what might otherwise be considered a facetious illustration of this perversion and suppression of medical testimony to the nullifying of justice, and, "for the nonce," to the degradation of the medical witness and expert in the eyes of the jury and "all spectators." The incident is accurate in all essential particulars.

The case was one in which the wife had been accused of causing the death of her husband by poison—all attendant circumstances and testimony in the case confirmed the suspicion; and, lastly, arsenic had been found in abundant quantity, by careful and laborious analysis, in the stomach and tissues of the dead man. The medical expert was one of the most conscientious and distinguished members of our profession, and a founder of this Association; and, withal, "as mild a mannered gentleman as ever"—had his throat cut, or his testimony scuttled, before an American jury. The advocate for the defence was one whose name, if mentioned, would at once be recognized by all present as one of the leaders of the American bar, and a states-

man of the land; and withal, one of the most powerful criminal lawyers that ever swayed the minds of a jury in behalf of the accused.

Scene.—The crowded court-room, many counties distant from the homes of both the medical witness and the advocate.

Lawyer: Are you a physician?

Medical Witness: Yes.

L.: You are a professor in —— College?

M. W.: Yes; Medical College of ——.

L.: What Chair do you hold?

M. W.: Chemistry and Pharmacy.

L.: Are you in the habit of analyzing for arsenic?

M. W.: Yes.

L.: Do you often find it in cases when called upon for your testimony in court?

M. W.: I have repeatedly found arsenic, or other poison in the stomach of such persons.

L. (*with emphasis*): Have you ever failed to find the poison?

M. W.: It has so happened that in the cases I have examined, the existence of poison had been circumstantially made out, and my analysis established the fact.

L.: You have always detected the arsenic, Doctor, in such cases?

M. W.: Yes.

L.: May it please your honor, we are satisfied with the witness.

Medical witness retires.

This was the cross-examination, and this lawyer for the defendant had the closing argument. No further questions were asked the witness. He had shown to the satisfaction of all intelligent persons present that he had, in a most scientific, conscientious, and expert method, supplied the last and convicting link in the unbroken chain of evidence required to establish the guilt of the accused.

This was the attention the lawyer gave to this medical expert testimony:

"Now, may it please the court, as to this medical—what they call 'expert testimony.' Consider the facts: He is a doctor; he is a professor in a college; his chair is chemistry and pharmacy.

"Gentlemen of the jury, he is in the habit of testing for poison—he is the arsenic hunter and arsenic finder for his college, and, you see, he is a good one; he *always* finds the arsenic. He is obliged to find it—it would ruin his college and ruin him if he did not find it; but, gentlemen of the jury, I appeal to you as intelligent and scientific men, you are not going to allow my innocent, unfortunate client to suffer to support the credit of that college!"

The murderess was acquitted by the jury almost without leaving their seats, as any one who knew the giant of an advocate she had might well have expected.

This was *perversio veri*, as well as *suppressio veri*—not by the witness, but by the lawyer. The medical deponent was, in his own way, almost as great a giant as himself, but he was a doctor in the court, and there he was a giant *bound*.

EXTORTED TESTIMONY.

Among many other burdens under which, as a witness, the medical man at present labors, is the *hard lot* imposed by that principle of common law, still existing in most of our States, which declares that the necessary confidential revelations of patients to their medical advisers, however sacredly held by the physician, are not to be regarded, in the courts, as "privileged communications." It reads thus, in exact legal terms, as I find quoted by Prof. Christopher Johnston, of Baltimore (*Trans. Med. and Chirurg. Faculty of Maryland*, Vol. 1874–1878): "Protection is not extended to *medical persons* in regard to information which they have acquired confidentially by attending in their professional characters." *Greenleaf on Evidence:* "The privilege is not accorded to clergymen, although contended for chiefly, if not wholly, in reference to criminal conduct and proceedings;" "Rome punishes the priest who reveals penitential confessions; and Mascardus states that the confession is made, not so much to the priest as to the Deity whom he represents, and that therefore the priest, when appearing as a witness in his private character, may lawfully swear that he knows nothing of the subject."

A very different character is here brought to our minds in the person of one of the witnesses in the trial of Queen Caroline. As we have it stated, "the trial proceeded, and the first witness was Zoödoro Majocchi, postilion to General Pino. If his evidence in chief was believed, he proved abundantly enough to establish the guilt of the Queen; but he entirely broke down when cross-examined by Mr. Brougham, and to questions respecting matters of which he must have had a lively recollection, the only answer to be obtained from him was '*non mi ricordo*,' which passed into and still continue household words in England for denoting mendacity." (*The Lives of the Lord Chancellors*, vol. x. p. 297.)

But neither the conscientious and authorized evasion of the priest, nor the mendacious one of this government witness will answer as a refuge for the doctor in the court; he must either betray the most sacred trust upon the assumed existence of which rest all the unquestioning revelations of all his patients, or he must pay the penalty—ordinarily fine or imprisonment—of "contempt of court," by boldly and honorably refusing to appear.

I believe it to be, however, the natural impulse which soon becomes the habit, more or less, of every honorable physician to forget, as far as may be, all that occurs in his professional relations with his patients, except such points which relate directly to the nature and treatment of the case. These points only recur to his mind when brought again into professional relations with the patient. Of many things left as a strong impression in the minds of the other party to the interview, I doubt not both he and the priest might conscientiously answer, "*non mi ricordo.*"

But we will continue the legal dicta upon our subject: "In regard to *professional* communications, the reason of public policy which excludes them applies *solely* to those between a client and his legal adviser."—*Greenleaf.* "The foundation of this rule," says Lord Chancellor Brougham, "is not on account of any particular importance which the law attributes to the business of the legal professors, or any particular disposition to afford them protection; but it is out of regard to the interests of justice, which cannot be upholden, and to

the administration of justice which cannot go on without the aid of men skilled in jurisprudence, in the practice of the courts, and in those matters affecting rights and obligations which form the subjects of all judicial proceedings.

"This 'privilege' extends to all papers or other communications; all letters written or entries made by the attorney, in his capacity of legal adviser; it extends to all communications made by the client to his attorney, though under a mistaken belief of its being necessary to his case." Every mark or record of a nature relating to, or for the purpose of professional advice or aid upon the subject of his rights and liabilities is placed *under the seal* of the law, which once fixed upon such communications, *remains forever*, unless removed by the party himself in whose favor it was there placed.—*Greenleaf.*

It is plain, then, that *practically* the private communications from the patient to his medical adviser are the only ones that ever become the subjects of extorted testimony, for it is a matter of general knowledge—and the ecclesiastical foundation is heretofore shown——that the devoted members of the Catholic priesthood will welcome fine and imprisonment, and the stake itself, before they would betray one item of penitential revelations made in the confessional. To our honor be it said, in sentiment at least, the medical profession is little or not at all behind them in faithfulness to its sacred trusts. And yet, in some of our States, the hardship is still greater and the penalty more inevitable, perhaps, with the physician than with the priest. "As the law now (1878) stands," says Dr. Johnston, "'the medical person' so confided in has no protection in the law; even if the judge choose to overlook his refusal to appear, the doctor, like any other ordinary witness, may be prosecuted for damages sustained by the party calling him, if it can be shown that by the withholding of testimony the party's interests had suffered."

It is pleasant to find that in the statutes of some of the States a complete *reversal* of this principle of the common law has been made. At an early period the enlightened State of New York began to manifest a liberal and humane state-craft upon this subject of confidential communications. In June, 1813, DeWitt Clinton, mayor, in the court of general sessions, ruled that "no minister of the gospel or priest of any denomination whatsoever *shall be allowed* to disclose any confessions made to him in his professional character in the course of discipline enjoined by the rules or practices of such denomination;" and by the revised statutes, "no person duly authorized to practise medicine or surgery *shall be allowed* to disclose any information which he may have acquired in attending any patient in a professional character, and which information was necessary to enable him to prescribe for such patient as a physician, or to do any act for him as a surgeon;" and by the second revised statutes, "information disclosed to a physician while attending a patient in his professional capacity, which information was necessary to enable him to prescribe for his patient, is declared to be a confidential communication, which the physician is not allowed to divulge without the express consent of the patient, for this is the privilege of the *patient* and not of the medical adviser."

"In Missouri, Michigan, Wisconsin, and Iowa statutes of the same effect have been enacted."—*Greenleaf.* The above was the progress made by the several commonwealths in this country up to the period of the publication of the valuable statistics, from which I have so freely quoted on this branch of my subject. There could be no more seasonable time or any better method or opportunity than this, offered in the present meeting of representatives from all the States, to procure in the near future the exact state of the law as regards extorted testimony in the various States at the present time.

That this principle of the common law, unrelieved by any statute in most of our States, conferring "privilege" on the confidential communications of patients to their medical advisers, deeply concerns the interest of communities, and is a constant and degrading challenge to the honor of our profession, we all must deeply feel.

I have presented *Extorted Testimony* as one of the many anomalous phases of our relations to the tribunals of law, all of which relations, with another yet briefly to be presented, require our early, earnest, and systematic consideration.

THE MEDICAL DEFENDANT.

There are many conditions of professional life in which the medical man may become a defendant, either justly or falsely accused. It is, however, in suits for malpractice that the danger and the evil have, in the course of years, grown so unpleasantly familiar to the medical profession. The scientific, skilful, and faithful surgeon, particularly should he be known to possess means to meet damages, no less than the ignorant and unscrupulous pretender, is constantly liable to have laid to his charge often the unavoidable results of injuries, as the consequences of either incompetence or neglect.

Unavoidable deformities and disabilities remaining after the treatment of fractures and dislocations have been made the most frequent occasions for arraignment of the surgeon; and in complicated cases of fracture the prudent and circumspect surgeon cannot entirely dispel from his mind this *bête noir*—this phantom, which may grow into a reality, to destroy his peace and cast a blight upon his reputation and his fortune.

My own first experience in the courts was in 1842, as a medical witness in defence of a most distinguished member of our profession—my master in surgery, Paul F. Eve, afterward President of this Association, in a groundless suit for damages laid at $20,000. The case was a comminuted fracture of the patella, resulting in gangrene and amputation. Able counsel was engaged, and though the suit was abandoned after the taking of testimony, the loss of time, cost in fees to lawyers, and temporary injury to reputation, summed up an amount of personal damage difficult to estimate adequately.

At various times and in different medical bodies, this question of malpractice suits has elicited attention. In 1856 the Committee on Surgery, Dr. J. W. Hamilton, Chairman, reported to the Ohio State Medical Association that in their opinion, the subject of malpractice was at that time of more importance than any other connected with surgery. "There is a standing and, apparently, a cumulative evil—an evil bearing with the weight of an incubus upon the profession. It is the

frequency of difficulties on account of alleged malpractice in the treatment of fractures . . . During one week in as many counties, four cases were tried."

I think, on examination of the records of the courts in the various States, and also from frequent communications, both private and in published correspondence in our journals, we may safely say that the evil is but little or not at all diminished at the present day.

It had been my design to give extended attention to this evil, than which no other more strongly characterizes the relations of the medical man to the tribunals of law, but the space already occupied with the relations of the medical witness and the expert admits of no further addition here to this address. The evil is, however, unfortunately, too widely recognized and keenly appreciated in our profession to require either elaborate presentation or extended comment.

A SECTION OF FORENSIC MEDICINE.

There are certain departments of medical science which apparently have no *special body of facts*, so to speak, which may be regarded as intrinsically their own. They are based, and often very broadly too, upon the facts and developments which specially pertain to some other department, and sometimes to many other departments of knowledge and practice growing out of them. The science of sanitary medicine is a department preëminently of this kind, hence it could have had no separate existence until after advanced progress had been made in such branches of investigation as those upon which we now find it expansively based.

"Modern sanitarians," says a recent writer, "do not pretend to lay claim to the origination of the knowledge that preventive medicine has utilized in the establishment of its principles, or in the efficient application of the measures to secure the public health. The rapid advances which curative medicine has made in the study of the causes of disease, whether atmospheric or telluric; also the rapid strides in pathology and in the discovery of disinfectants—all have contributed largely toward the present satisfactory status at which sanitation has arrived."

Forensic medicine in this respect is just such a department as sanitary medicine. It has no body of facts especially its own, and while it has wide and intimate relations with all the branches of science, it is individually the province of none of them. It depends upon bringing them all, when necessary, into combined relation with law, as sanitation has brought them into combined relation with the public health, and with the hygiene of communities.

I am aware that in the not distant past medical jurisprudence was, in some sort, comprehended in the scope of the regular Sections of this Association, affiliated with chemistry on account of its frequent relation to toxicology; or with psychology, on account of its perhaps more frequent exercise in questions of insanity; or with surgery, on account of the appeals made to it in suits for damages after the treatment of fractures; or again, with obstetrics, because criminal abortion or bastardy may give rise to questions of law. In any one of these individual associations it would be curtailed of its domain, dwarfed in its dignity, and perverted from what should be the comprehensive and beneficent intent of the department of legal medicine as an object worthy the study and cultivation of this Association.

As recognized by this Association, the Department of Forensic Medicine should comprehend all the subjects as referred to in these several departments; but besides them, every question or occasion through which the medical man can be brought into relation with the tribunals of law; whether, as a medical witness, as a medical expert, or as a medical defendant; or in time, when he shall have attained to his true dignity as *Amicus Curiæ*, or Adviser of the Court, his dictum equivalent to conclusive evidence, his scientific wisdom worthily rewarded as enlightment, indispensable in the upholding of justice; and his profound and conscientious opinion accepted with the same unquestioning confidence as to its integrity, as that which is yielded to the judicial ermine, and the charges from the bench.

In the organization and subsequent changes of the sections, medical jurisprudence seems at last to have disappeared as a fully recognized platform for our readings and discussions. There can be no one who values more highly than I, or recognizes more fully the dignity of every subject, even be it on the very outskirts of the domain of medicine, but none can be of higher importance in the present and the future, than attention to our concern in the department of Forensic Medicine. I would not wish to appear either invidious or irreverent, when I charge you. Let us still in our deliberations continue to "pay tithes of anise, and mint, and cumin, but among them all, let us not neglect the *weightier matters of the law*."

In conclusion, gentlemen, I would with great deference recommend that a committee—of which I would ask to form no part—be appointed to consider the expediency of organizing, or of rehabilitating a section of forensic medicine, for the reception and discussion of papers and reports on all subjects conversant about the important, but, at present, anomalous and little understood, relations of the medical man to the tribunals of law.

In time, may we not be able to prophesy of legal medicine in the words of the now almost mythic Seneca: the day will come, when those things which are now hidden shall be brought to light by true and persevering diligence—when our posterity will wonder that we should have been so ignorant of that which is so obvious.

THE ADDRESS IN MEDICINE.

Delivered April 29, 1885.

By HENRY D. DIDAMA, M.D.,
OF SYRACUSE, N. Y.

The prescribed duty of the Chairman of the Medical Section is to acquaint you with the progress made during the past year in Materia Medica, and the Practice of Medicine. A literal compliance with the mandate would subject you to a wearisome recital of facts and fancies which have been gathered already by enterprising medical journals and scattered broadcast throughout the world. The spirit of the injunction may be honored by the omission of minor and as yet unestablished additions to our armamentarium, while a few comments are made on the two recent discoveries, which have not entirely escaped popular and profes-

sional attention—Comma Bacillus and Hydrochlorate of Cocaine.

THE HYDROCHLORATE OF COCAINE.

The prompt and unprejudiced experiments made with the new local anæsthetic; the cordial, enthusiastic, and universal acknowledgment of its merits are a refutation of the charge that the medical profession is hampered by a blind and dogged conservatism. The drug is still in its infancy. Its anæsthetic properties are so remarkable that its use has been limited mainly to surgery, and especially to operations on the eye. But that it has a valuable future in medicine also there can be no doubt. Its ability to produce contraction of congested bloodvessels and pallor of the mucosa early suggested its probable utility in various pathological conditions.

Used as a collyrium in conjunctivitis, and in the form of spray in acute and chronic nasal and laryngeal catarrh, it has been of service not only as an adjuvant, but as the principal remedy. Speakers and singers afflicted with sudden and even persistent hoarseness and aphonia, have found speedy relief, and a restoration of vocal functions. It is not improbable that, used with the atomizer, it may mitigate the severity of the paroxysms of pertussis, and alleviate the dreadful distress of tubercular laryngitis. Internally—if its price shall not continue to forbid its general employment—it may be found serviceable in gastric irritation and catarrh, and like the leaves from which it is extracted, it may prove to be a quick and powerful muscular invigorator.

THE COMMA BACILLUS.

The brilliancy of the discovery of the comma bacillus by the already immortalized Koch, is universally admitted, but the claim that this microbe is the pathogenetic factor in cholera, is stoutly denied by some eminent observers. This denial is echoed by many worthy people who are constitutional doubters, and who habitually substitute prejudice for patient investigation.

It is asserted on the one hand that the comma is not pathognomonic of Asiatic cholera, being found in the dejections of cholera morbus, and even in healthy oral secretions, and on the other hand that in many cases of Asiatic cholera it is entirely absent, and that if it happens to be found its presence is a harmless coincidence. So confident has been this scepticism that its devotees have actually indulged in cholera dejections swarming with bacilli as a beverage. Surviving the somewhat repulsive experiment, the inference has been drawn that these microbes have no infectious properties.

Klein and others have demonstrated that the tank water in various parts of India is fairly alive with these punctuating bacilli, and that the natives drink it and them with avidity and impunity. The poor maligned comma microbe seems now in a fair way to have a reputatation for innocence fully established. His brother, the bacillus of tubercle, had a similar checkered experience. Miliary tubercle, it was asserted, identical with that caused by the bacillus, could be produced by inhalations of glass-dust, or by inoculations with any inert substances. One zealous doubter hastened to proclaim that the microbe was a base impostor; that what seemed to be a living organism was simply a masquerading fat crystal. But more extended observations and experiments, which excluded former sources of error, have so established the morbific character of this microbe that the affirmation may be made with some assurance—*every tubercle comes from a bacillus.*

In regard to the comma, Klein, in a recent discussion, admits that while this bacillus in and of itself is harmless, it yet does excrete or produce a virus or poison which causes cholera, so that after all the comma is actually essential to the existence of cholera, and the formula is justified—*no comma bacillus, no cholera.* Let it be admitted that the harm is done not by the living microbe, but by some dead excretion. Still, as there can be no excretion without an excretor, the comma cannot be allowed thus to shirk responsibility. The common law maxim, *qui facit per alium, facit per se*, will hold the principal liable for all the legitimate actions of its representatives.

It is admitted by Klein and his supporters that the poison produced by the bacilli is self-multiplying. Then it must be alive; for a dead excretion has no power of propagation. And if it be alive, it must itself be a microbe, the vicious offspring of the amiable comma. So that at last the contending parties occupy the same platform; one party laying the blame upon the mother microbe, the other party insisting that guilt rests on the wicked daughter.

Too much admiration cannot be felt for the army of patient and zealous investigators who brave danger, who sacrifice ease, who spurn lucrative pursuits in their devoted hunt among uncanny objects for some new minute enemy of the human race. They deserve all the plaudits which they receive.

But does not truth compel the sad confession that bacteriology with all its brilliant discoveries, has furnished little help to what is of the greatest practical importance to physicians and patients: the Art of Healing. The fatal march of consumption has not been arrested, and its treatment has not been even modified by the discovery of the bacillus. The dreadful disease still continues to kill one-sixth of the human race; and its ravages would not cease even if the bacillus could be exterminated. For consumption exists and runs its deadly course where no tubercles are present.

No new remedy has been suggested by the discovery of the cholera microbe. It is known that this bacillus thrives in alkaline soils, and has its growth and propagation hindered or arrested by acid conditions. But the acid treatment of cholera was employed with some success more than a decade of years before it was known whether the cause of the disease was shaped like a comma or an interrogation point. Ague yielded to Jesuits' bark ages before the bacillus malariæ was dreamed of; and the knowledge that vegetable germs are the fountain and origin of the complaint has not added one jot to our ability to manage it.

These facts are admitted, but they do not detract from the merit of the germ-seekers. No practical—certainly no commensurate—good has come from Arctic explorations. But Franklin and Kane and Greeley, and all their noble associates, deserve honor and reward not for what they achieved, but for what they attempted. Let the spirit of inquiry suffer no discouragement.

The ugly duckling becomes at length the beautiful and graceful swan. The helpless and useless babe

grows into vigorous manhood in time. Through untold ages the sun has been sending to us line upon line ardently acknowledging our good mother earth as his beloved daughter. The messages were unseen by dull mortal eyes till the Bavarian optician, Fraunhofer, came. He discovered the affectionate hieroglyphics in the solar spectrum, but he could not decipher them. He did what he could. He patiently observed and measured and honestly recorded five hundred and seventy-six apparently meaningless lines. And then he waited for the advent of some Champollion capable of furnishing an interpretation. For forty-five years the epistle remained untranslated. Then Kirchhoff, another German, after much patient search revealed to us the kinship of things terrestrial and celestial. Some good, let us hope, will yet come from the cruel and murderous Arctic explorations.

In some way Mycology may aid in preventing and curing disease. Let us labor and wait. But may we not, with all due humility and deference, suggest to our friends whose eyes are worn out looking through their fiftieth-inch objectives that the shape of the microbes, or even their behavior in cultivation fluids is no longer of supreme importance. Is it not time that a little more attention be directed towards discoveries in prophylaxis and therapeutics. Already the antiseptic precautions introduced by Lister have been of incalculable benefit to surgery. Those who decry Listerism, and claim that cleanliness is sufficient, actually pay tribute to the genius of the great antiseptic apostle. Dirt is harmful only because it contains noxious germs; cleanliness to the extent that excludes these germs is asepticism; and asepticism is Listerism.

We await the advent of some medical Joseph who shall discover a germicide which is not a homicide at the same time.

These remarks are introductory to my brief and fragmentary address.

THE ETIOLOGY OF DISEASE.

The mycologist is inclined to claim that a legion of diseases arise from microörganisms. Included among them are the exanthems, typhus, typhoid, and yellow fevers, diphtheria and mumps, tuberculosis, venereal indiscretions, and cholera asphyxia. Included also are complaints like pneumonia, whose contagiousness is not generally admitted, and rheumatic and malarial fevers which are non-contagious. It is not pretended that the specific *contagium vivum* of every one of these complaints has been demonstrated by propagation experiments. But as the spirillum of anthrax, the micrococcus of diphtheria, the bacillus of phthisis and cholera have been captured and exhibited and caused to multiply, the inference—conjecture, if you choose—does not seem forced that all diseases which resemble these specified in having contagious properties, or a period of incubation, or a definite cycle, or capabilities of preventing subsequent attacks, have as their causes certain minute, even if undiscovered, organisms. Further observations will be made. Alleged discoveries will be subjected to rigorous investigation. The false will be brushed away. The truth will be established. Carping criticism will yield to peaceful acquiescence.

The neurologist is confident that a multitude of complaints have their origin in the nervous system. And he has good grounds for his opinion. Fever as a Neurosis is the subject of an able paper by an eminent writer at this very session of our Association. That a high temperature—the highest recorded—has resulted from injuries of the spinal cord—and where the influence of microzymes is excluded—is not a matter of question. In one instance the temperature reached 122° F. and remained for seven weeks between 108° and 118°. The patient was a lady, the result was recovery. An incidental inference, which I will not press, is that if recovery can take place after a continuous average temperature of 115° for nearly two months, it is not the fever which kills or produces rapid softening of the heart and other organs in fatal cases of typhoid. Whether there be special calorific nerves which may be stimulated in moderately severe spinal injuries to increased production of heat, or whether, from continuous compression of the nerves, heat is produced by increased resistance—as in the galvano-cautery—are questions which may merit investigation. Fever, so far as it consists in elevation of temperature, can be a simple neurosis.

That rheumatism involves the nervous system, even if it does not originate in it, may be inferred from the erratic behavior of the joint affections in rheumatic fever, and from the causes of arthritis deformans, which are often grief, prolonged anxiety, and injury or disease of nervous centres, as shown by Charcot, and ably presented by Ord at the last meeting of the British Medical Association. Many cutaneous affections, notably zoster, urticaria, eczema, are of nervous origin. Pneumonia sometimes arises from injury of the brain. Diabetes, both the glucose and the insipid varieties, can be produced, as is well known, by irritating certain nerve centres. Some kidney diseases and liver complaints are the result of persistent nervous disturbance.

The humoral pathologists still adhere to the belief that our physical ailments arise from disorders of the blood. Plethora has its numerous attending evils, congestions, hemorrhages, cardiac disturbances. Anæmia is the prolific parent of a thousand aches and pains; of indigestions, palpitations, mental and physical debility. Blood containing an excess of a certain element causes diabetes. Contaminated with another, it occasions Bright's kidney and diseases of the urinary tract. Rheumatic fever, with endo- and peri-carditis and permanent valvular disease, is produced by the ingestion or injection of a certain acid, and its absorption into the blood, as shown by the experiments of Richardson and Foster. This acid is produced normally from certain elements of the food. It is transformed before reaching the systemic circulation. Produced in excessive quantity, or failing to be transformed, it poisons the blood—as it does when introduced experimentally—and causes rheumatic joint affections and cardiac lesions. As is well known, these endocardial disturbances and valvular injuries are limited almost exclusively to the left heart. The right heart escapes because the acid is normally present there, and so an accustomed stimulant. The transformation is effected in the lungs. In failure of this transformation, the acid passes into the general circulation, and, being an unaccustomed stimulant, poisons the left heart and works its well-known mischief.

Many dermatologists believe that certain cutaneous

affections are caused by impure blood. Eczema is one. The solidists pin their faith to cellular pathology. We need not be confused by this conflict of opinions. Neither of the views is exclusively true; neither is wholly false. Living foreign organisms; the nervous system; effete impurities of the blood; disorder of the minute cells of which every part of the human frame is constructed; each of these may be a factor in the origination of disease; each may be first, or midway, or last, in the vicious circle of causes—the etiological Round Robin.

Germs may develop a countless brood and contaminate the blood, either by their own abnormal presence or by a poison which they exude. This poisoned blood stimulates or obstructs the nervous system, and the heat of fever is developed by the correlation of forces. The presence of certain microbes is made known to the nervous centres. A mandate is sent to the vaso-dilators of the lung; congestion and pneumonitis result. Some irritation at the origin of the vagus produces hyperæmia of the liver, over-production of sugar, impairment of the transforming power, disturbance of the kidney, and diabetes. From disordered digestion, an abnormal condition of the blood may result; the nervous system may become involved. Gout may be a product, sometimes appearing in its true character as a torturing joint affliction, and sometimes masquerading as eczema or asthma.

The blood, the nerves, the cells, the microbes, are thus seen to have a pathogenic partnership harmony, and to be interdependent. Without the aid of the nervous system there could be no fever. But the nervous system alone can never originate any specific fever, typhoid, or rheumatic, or pneumonic. Rheumatism is intimately associated with a poison in the blood, but the excessive production of the poison and its circulation in unwonted vessels are the result of abnormal nervous influence.

From the ovum to the cadaver, man is constantly exposed to this conspiracy of morbific influences and agents to destroy him. There are foes without and foes within; foes which march up in front and boldly smite him in the face; foes which approach insidiously and undermine him; foes which are so attractive that he counts them as friends, till he finds himself dangerously smitten under the fifth rib. The destructive influences and agents are in the air he breathes, the food he eats, the water he drinks, and a hundred-fold more in the substitutes for water which he imbibes. These foes are the accidents and sudden dangers which he encounters; the misplaced switch of the railroad; the lurking miasm, the infected air, the defective drainage, the insufficient light which sap the foundations of life. They are the seductive habits and vices which sparkle and smile, and then bite like the serpent and sting like the adder. These morbific foes find access to the citadel of life through sometimes one avenue and sometimes another. This one comes in through the blood which it poisons, that one along the path of the nerves which it throws into abnormal vibrations, and the other creeps from cell to cell corrupting and enfeebling every fibre and tissue. Whatever the manner of entrance, the result is the same: nerves and blood and cells all become at length involved in the mischief.

To counteract these ruinous influences and agents—to fight with greater or less success against the open and concealed enemies, many means of defence and attack are provided. There is wisdom gained by observation and experience. There is the obtainable skill of the sanitarian and physician. There are certain inherent powers of resistance and recovery which, ever on the alert, are more potent protectors than that human wisdom which often sleeps; than that human skill which sometimes gropes and sometimes blunders.

We are familiar with what is called the *vis medicatrix naturæ*. It is a power which is sufficient in many—perhaps most—cases of disease to effect a cure. Sometimes it brings relief while the physician simply watches or gives inert drugs—and claims all the credit. Sometimes it corrects disorders with the well-timed aid of the doctor. Sometimes it triumphs over the combined attack of the disease and the blundering medicine-man. This reparative power is the best friend and ally of the wise physician. It may be too weak to accomplish its purpose, and so may need timely and sufficient aid. It may overdo the matter, and so need wholesome restraint. It may be irregular in its action, and so need careful guidance.

THE VIS MEDICATRIX.

Now while we are familiar with this reparative power, we may not be so attentive to another conservative force which is especially important: The Resisting Power. From the *vis medicatrix* this power differs essentially. One is a restorative force—a tendency to come back to the normal condition after departure from it. The other is the conservative force, which *prevents* departure. A steel spring yields readily to external force, but its elasticity—after the disturbing cause is removed—enables it to resume its original condition. This is the *vis medicatrix*. Granite rock is not easily affected by external violence. Its power of resistance is great. When the force brought to bear upon it is strong enough to cause it to yield, it goes to pieces, having no recuperative power. There may be great toughness combined with great resisting power. The iron-clad vessel when struck by ponderous ball or steel bolt, may be perforated, but it is not hopelessly shattered.

This resisting power is akin to what is called inertia in physics—the tendency of a body in motion to keep going; of a body at rest to remain quiet forever. Light bodies with little substance are easily set in motion, and easily deflected from their course, or arrested in it. A feather can be wafted or stopped by the slightest breath. A cannon ball, an avalanche, are turned aside by no obstacle; they move onward to their destination.

Every human being has more or less of this resisting power. It may be feeble and yet so united to a recuperative force, that the individual possessor manages to get along fairly well. Any trifling mishap or exposure may prostrate him, as a reed may be shaken in a moderate wind; but his elasticity, like that of the reed, brings him up promptly when the storm ceases. He has his frequent ups and downs; we all know many such cases; he is delicate of constitution; he may be like an estimable old lady of my acquaintance, at the point of death at odd spells for thirty years; and yet he lives on by virtue of the *vis medicatrix*, of which he

seems to be composed, till all his acquaintances have passed off the stage of action.

On the other hand, this resisting power may be like that of the granite. Its owner may violate all sanitary laws, may laugh to scorn all counsel about what he should eat or drink, or wherewithal he should be clothed. He may expose himself unprotected to cold and wet. He may go without sleep and food. He may tax stomach and brain and muscle to the utmost. And yet he may remain undisturbed. We know such men—men who guzzle poor whiskey every day, and live to be a hundred years old. We know men of granite constitutions, who prowl around late at night, when they should be snugly in bed; who gormandize, who exercise vigorously all the vices; and yet who remain a standing refutation—as superficial observers think—of all rules for preserving good health. But when some overwhelming calamity comes they are stricken down forever; their first illness is their final one; they crumble to atoms.

In every community are those whose resisting power is so feeble from inheritance or so thoroughly impaired by excesses that they are but walking dead men—apples of Sodom perhaps—fair to look upon, but ashes or putrefaction at the core. They yield to influences which are trivial in their nature, and go into the hands of the undertaker before their neighbors had even heard of their illness. These are children of old, or debauched, or scrofulous parents, whose resisting power is so nearly *nil* that their aspirations to stand with the angels receive early gratification, in spite of all that love and skill can do to keep them away from their heavenly home. We name the messenger who summons them cholera infantum, or tuberculous brain disease, or white swelling; and as parents, while we wonder at the mystery, we bow submissively to Him who gives and then takes again so soon. But as physicians, we are not surprised that diseased and mushroom cells should hasten to early destruction.

No man liveth for himself alone. The good constitution, the strong resisting power of the temperate and upright man is not only a sure personal defence against disease and a guarantee of longevity; it is transmitted to his offspring down to many generations. The dissolute man, broken down with diseases acquired while sowing his wild oats, suffers not alone. If he did, we might view the transaction with mitigated sorrow. He had his coarse enjoyment, and he can afford to reap corruption. But the evil that he does lives after him in the blighted and wretched lives of his innocent children and his children's children.

A priceless inheritance is a strong resisting, combined with a vigorous recuperative power. He who has it and preserves it, and fortifies it, living a clean and active life, eschewing bodily and mental excesses, and clinging to the Divine promises, may bid defiance to disease in its multifarious forms. He need not be afraid for the pestilence that walketh in darkness, nor for the destruction that wasteth at noonday. Free from fear—the greatest depressant—he shall walk unscathed through all perils. A thousand may fall at his side and ten thousand at his right hand, but disaster shall not come nigh him. And even when the onslaught of disease cannot be wholly warded off, the wounds inflicted shall have speedy healing.

MEDICAL PROGRESS.

Uncontrollable Hysterical Vomiting; Cure by Cocaine.—Professor Kohler has successfully employed cocaine in concentrated solution in several instances with noteworthy results. In one case he, without injury to his patient, sounded and dilated the larynx and trachea after application of the drug. In a second remarkable case, a hysterical woman was attacked with uncontrollable vomiting, from which she became so much reduced that to sustain her it became necessary to resort to peptonized enemata. The first application of the solution of cocaine enabled the woman to partake of liquids, and the second rendered the ingestion of solid food possible. On abandoning the use of the cocaine, the vomiting was at once renewed.—*L'Abeille Médicale*, April 6, 1885.

Early Resection of the Long Bones during Growth in acute Osteomyelitis, with Suppuration of the Neighboring Joint.—Dr. A. Cerné, at the last meeting of the French Surgical Congress, read a paper upon the early resection of the long bones during growth in acute osteomyelitis, complicated with suppuration of the neighboring articulation, of which the following are the conclusions:

1. Early resection in acute osteomyelitis during growth may be substituted in nearly every case for which, up to the present time, amputation has been considered necessary.

2. Resection can and should be limited to those parts affected by necrosis, if the disease is limited to the bone.

3. Invasion of the neighboring joint does not constitute a contraindication to the operation, but renders it the more imperative.

Resection of the Hip in Coxalgia; its Indications and Ulterior Results.—Prof. Eugene Bœckel, at the meeting of the Congrés Francais de Chirurgie, recently held at Paris, expresses his views as to the operation of resection of the hip in coxalgia, as follows:

1. Suppurative coxalgia in a young subject is never cured except when the head of the bone is luxated or destroyed.

2. The operation of resection is in itself not dangerous, but is influenced or complicated by the general condition.

3. Tuberculosis or meningitis causes the death for the most part in those undergoing the operation for resection, as does it also in those affected by coxalgia.

4. The more opportune and less extended the resection the more perfect and rapid the cure.

5. The arrest of development in favorable cases is slight.

6. After delayed resection such arrest is considerable; also in those cases of suppurative coxalgia whose cure has been extended over some years.

7. Resection is the surest method of curing, quickly and well, a case of suppurative coxalgia.

8. Contraindications to resection are furnished by pronounced tuberculosis of any internal organ. Albuminuria, which is susceptible of cure after resection, is not an absolute contraindication.

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SATURDAY, MAY 2, 1885.

DRY PLEURISIES.

SIR ANDREW CLARK, in London, and DR. J. R. LEAMING, in New York, have on many occasions during the past twenty years insisted on the importance of primitive pleurisies in the natural history of phthisis. The former has recently in his Lumleian Lectures, at the Royal College of Physicians, London, given a full and detailed statement of his views, to which we shall briefly call attention.

A dry pleurisy is defined to be such an "inflammation of the pleura as issues in an exudation of lymph into the substance and upon the surface of the membrane, unaccompanied by an amount of serous effusion sufficient to yield physical signs conclusive of its presence." In the first lecture the clinical aspects are considered and twelve cases are selected for narration, from material which is referred to as embarrassing in its richness. An analysis of these cases makes us question whether all come under the category of *primitive* dry pleurisies. Case II. we should regard as a somewhat anomalous pleuropneumonia. In Cases IV., VII., IX., and XI., there seems every probability that the pleurisy was originally *wet*, and that the dulness with retraction of one side resulted from the gradual absorption of the fluid and organization of the thick exudation. Case IX., certainly, with the remnant of an old empyema in the diaphragmatic pleura, communicating with an abscess in the liver, cannot be regarded as one of ordinary plastic pleuritis. Many of the cases were followed for years, which adds greatly to the interest, and they are related in a very pleasant way, so that one does not weary in the perusal.

The second lecture opens with a criticism on the current anatomical description of a lung lobule, and an original account by Sir Andrew, which, so far as we can gather, does not differ essentially from the descriptions criticised, except in discarding the terms *alveolar passage* and *infundibulum*, and the statement that the air cells are cubical, not hemispherical.

Sir Andrew's remarks on the structural character and changes in blood-clot and exuded lymph illustrate what a pathological Rip van Winkle a man may become, engrossed in the cares of practice, for we have here the antiquated assertion of the formation of the fibrous elements directly out of the exudation or from a fibroid basis substance. The exudations are classed under three heads: fibrinous, characterized by the scarcity of cell forms; the croupous, by their abundance and rapid degeneration; and the proliferative, with numerous cells which display active structural development. The two former are accompanied by the phenomena of inflammation, while the proliferative is a textural growth. By a gradual extension of the indurative changes into the lungs, at first along the interlobular septa, then about the vessels and bronchi, and, finally, the alveolar walls, a fibroid condition of the organ is produced. Later changes are the development of bronchectasis, and the destruction of tissue with the formation of cavities and the production of a fibroid phthisical lung. The anatomical picture is, on the whole, faithfully and accurately drawn, but it is too restricted, and we should have liked more information on the differences between *primary* cirrhosis, and that which is an outcome of chronic pleurisy. In the third lecture the clinical features and symptoms are considered, and the local physical signs very fully and ably discussed. Some most interesting points on the history of bronchectasy are dwelt upon at length.

The tubercle bacillus has evidently been a source of not a little worry to Sir Andrew Clark, whose well-known divisions of phthisis into tubercular, pneumonic, and fibroid, have been somewhat disturbed by its advent. He holds, very justly, that its "exclusively causal agency, although extremely plausible, is not conclusively proved;" and, even if the views regarding the unity of phthisis should prevail, the fact remains that there are subsidiary groups which require separate and permanent recognition. "Why," he suggests, "under the generic name bacillary phthisis should we not recognize the subordinate independence of tubercular bacillary phthisis, caseous bacillary phthisis, and fibroid bacillary phthisis?" The contention for non-bacillary ulcerative processes in the lungs appears perfectly well taken.

In these admirable lectures two omissions strike us as being very odd, viz., the absence of any reference to primitive dry tubercular pleurisy which may induce enormous thickening of the membrane, and

last for years before the lung is involved; and secondly, no mention is made of the all important part played by neglected pleurisies and empyemas in the etiology of fibroid phthisis.

For one case in which *primitive* dry pleurisy causes induration of the lung, we should say there are at least a dozen the result of a pleurisy, serous or purulent, left to nature and undergoing resorption only after months of ill-health. Sir Andrew Clark, at the beginning of the first lecture, asked the question, Do primitive dry pleurisies exist? and admitted that their influence in producing secondary disease of the lung had been hotly contested. That they occur with great frequency every one knows, that they may induce fibrosis of the lung we readily allow, but after a tolerably extensive experience we never met among numerous specimens of cirrhosis one which in its etiological and anatomical features, bore out the views of the distinguished Lumleian lecturer.

THE BACILLI OF SYPHILIS.

At the recent Kongress für Innere Medecin, held at Wiesbaden, Lustgarten, the clinical assistant of Kaposi, described a new microphyte, which, by the aid of a novel process of coloring, he had constantly found in the primary, secondary, and tertiary lesions of syphilis, and which he regards as the cause of that disease.

The bacilli are short, straight, or curved rods, with irregular, undulating, and slightly notched contours, of a deep blue color, and contain from two to four spores. They are never free, but are invariably included in wandering cells, in groups of from two to nine. The cells themselves are rarely found at the centre of the infiltration, but exist in pretty large numbers at its edges, and in the adjacent apparently healthy tissues. Lustgarten has also demonstrated the presence of these bacilli in the spinous cells of the rete Malpighi in papular eruptions, through which he explains the clinical fact that moist papules become contagious when they are deprived of their epithelial investment.

For the information of those of our readers who may desire to enter this special field of investigation, we reproduce the method of staining adopted by Lustgarten: Sections, which have been hardened in alcohol during twelve to twenty-four hours, are placed for two hours in a fluid composed of eleven parts of a concentrated alcoholic solution of gentian violet and one hundred parts of aniline water, at a temperature of 104° F. The sections are then decolorized by washing with absolute alcohol, and next placed for ten seconds in a one and a half per cent. solution of permanganate of potassium, when they are transferred to pure sulphurous acid, and allowed to remain until they are nearly deprived of color. They are then washed with distilled water, reintroduced into the permanganate solution for three or four seconds, and again placed in sulphurous acid. This manœuvre is repeated several times, or until the preparations are entirely colorless, when the water is extracted by alcohol, and the sections mounted in oil of cloves.

From the peculiar tinting reaction of the bacilli, which has not hitherto been observed in other microscopic organisms, Lustgarten assumes that he has discovered a bacillus which stands in the same relation to syphilis that the bacillus tuberculosis does to tubercle. In two of the other infective tumors at least, namely, lepra and tubercle, the virus has been demonstrated to be a rod-shaped bacillus contained in the granulation tissue of the neoplasm, and we have every reason to presume that the syphilitic virus is connected with a particular form of bacillus, although the fact has as yet not been demonstrated. Pure cultures in sterilized gelatine, and possibly other media, as well as direct inoculation, must be practised, before Lustgarten's bacilli are accepted as the cause of syphilis; and, when we bear in mind the failures of Klebs, Ziegler, Von Rinecker, and others in this direction, we must accept his statements with great reserve.

ARSENICAL WALL PAPERS.

The use of arsenical pigments in coloring wall papers, and many kinds of wearing apparel and other articles, is sufficiently common to warrant the enactment of a law prohibiting the manufacture and sale of articles of domestic use containing poisonous coloring matters, or at least making it compulsory that they should be advertised as containing deleterious matter, so that the purchaser may have full knowledge of the danger which is incurred by their use.

Many continental countries have very rigid regulations on this subject, those of Sweden being by far the most stringent. In England strenuous efforts have been made, but without success, to have a law enacted prohibiting the manufacture, sale, or importation of articles of domestic use, containing arsenical pigments, or containing arsenic in any form. In this country less attention has been given to the subject, but certainly not because there is less need of such a law, for there is every reason to believe that the trade in poisonous articles is extensive. It is only necessary to read the article in the fifth annual report of the State Board of Health, Lunacy, and Charity of Massachusetts, by Professor Edward S. Wood, on "Arsenic as a Domestic Poison," to be convinced of this unwelcome fact. Professor Wood's paper is a valuable supplement to the exhaustive article of Dr. Draper, "On the Evil Effects of the Use of Arsenic in Certain Green Colors," which was published in 1872. It shows how very extensive is the

employment of arsenic in the manufacture of articles intended for domestic use; and that this substance, when used in the manufacture of domestic articles, such as wall papers and clothing, may, and frequently does, cause very distressing symptoms, and sometimes dangerous, and even fatal, poisoning.

According to Professor Wood, the most common source of domestic arsenical poisoning is wall paper, which frequently contains an excessive amount of arsenic in the coloring matter. Green papers were at one time supposed to be the most dangerous papers on account of the use of certain preparations of arsenic in the coloring matter; but at the present time, although many of these papers contain dangerous pigments, arsenic is more frequently found in wall paper of other colors. This is accounted for on the supposition that the public have been specially cautioned in regard to the poisonous character of green papers and pigments, and have avoided them unless assured that they are not arsenical. Manufacturers have, therefore, been obliged to produce these colors without using the objectionable arsenical coloring matter. It is stated that red and blue papers are more frequently arsenical than the green. Even the delicate French grays contain a very considerable amount of arsenic. In fact, papers of any color or any shade may contain arsenic; and, therefore, color is not a reliable guide in distinguishing a poisonous from a non-poisonous paper.

The examination of a large number of specimens by Professor Wood developed some startling results. A number of the specimens contained as many as six grains of arsenic per square yard; a large number of them over one grain per square yard. One specimen of the so-called "glazed and plated" papers, so much used by children in kindergarten schools, contained as much as 55.88 grains of arsenic per square yard. It was found that no reliance could be placed on the color as indicating whether a paper was poisonous or not, and that the price of a paper is no security against its poisonous nature, as some of the most expensive papers contain a large amount of arsenic, while some cheap papers have none at all.

Poisoning is caused not only by the inhalation or contact with the body of arsenical dust, but also by the absorption by the skin and lungs of a very poisonous gas, arseniuretted hydrogen, which is evolved by the decomposition which takes place when arsenic is in contact with moist organic matter, such as the size or other vehicle for the color.

The symptoms of arsenical poison are difficult to recognize, as they simulate those of other diseases, and doubtless many cases of illness due to this cause are ascribed to other agencies, and their true character overlooked, because it does not occur to the medical adviser to think of the arsenic in domestic articles as the source of the trouble.

Since the evil is widespread, what defence have the public against it? Manifestly the employment of arsenical pigments in every shape in domestic articles should be prohibited. This is a matter which should claim the prompt and careful attention of the legislature. Pending some definite legislation on the subject, it would be well to require from the vendors of wall papers a reliable test showing that the papers contain no arsenic or other poisonous matter, since mere inquiry would be met with the assurance, given in good faith, that the article was harmless,—an assurance which is entirely untrustworthy. It is not practicable for the purchaser to institute a test on his own account, though this is done in some cases, and the security thus obtained amply repays the trouble and expense. Some firms, with commendable regard for the public safety, require the products to be submitted to exacting chemical tests, and thus are enabled to assure their patrons of the harmless nature of their stock. This practice, however, cannot be expected to be universally adopted, and therefore the self-imposed labor of some manufacturers should be supplemented by a general investigation by the analyst of the health board, who can render a valuable service to the public by a searching examination of the stock of paper-hangings offered for sale.

The physician should not forget the possibility of wall paper poisoning, and, in ill-defined and suspicious cases of sickness, he would do well to cause the wall paper to be submitted to a chemical test.

THE CHAIR OF CHEMISTRY IN THE JEFFERSON MEDICAL COLLEGE.

WE have the pleasure to inform our readers that Dr. J. W. Holland, of the University of Louisville, was elected on Monday last, Professor of Medical Chemistry and Toxicology in the Jefferson Medical College. Prof. Mallet, who was elected in September, 1884, in succession to the late Professor Robert E. Rogers, returns to the University of Virginia, from which he has not been able to separate himself permanently, although he has made two efforts to do so.

Dr. Holland has had thirteen years' experience as a teacher of medical chemistry, having been appointed to that chair in the University of Louisville, on the retirement of Prof. J. Lawrence Smith, whose assistant he had been. Dr. Holland is an admirable speaker and lecturer, and a gentleman of superior culture and of refined manners. His address before the Jefferson Alumni Association, at the last annual meeting was a finished and scholarly production, and did justice to his high reputation as a speaker.

The college to which he comes, and the medical profession amongst whom his lot will be cast hereafter, are to be congratulated on this agreeable addition to their resources

SOCIETY PROCEEDINGS.

THE AMERICAN MEDICAL ASSOCIATION.

Thirty-sixth Annual Meeting, held at New Orleans, April 28, 29, 30, and May 1, 1885.

(*By Telegraph.*)

(Specially reported for THE MEDICAL NEWS.)

TUESDAY, APRIL 28TH.—FIRST DAY.

THE Thirty-sixth Annual Session of the American Medical Association was called to order at 11 o'clock in Tulane Hall, in the City of New Orleans, by Samuel Logan, M.D., Chairman of the Committee of Arrangements. After prayer, DR. HENRY F. CAMPBELL, of Georgia, the PRESIDENT-ELECT, was introduced and took the Chair.

DR. LOGAN, on behalf of the medical profession and the citizens of New Orleans, then delivered a cordial and eloquent *Address of Welcome*.

The former Presidents and Vice-Presidents of the Association were invited to seats upon the platform.

DR. HENRY F. CAMPBELL then delivered the

PRESIDENT'S ADDRESS.

(See page 477.)

DR. I. N. QUIMBY, of New Jersey, moved that a committee of five be appointed to consider the suggestions contained in the President's Address. Adopted.

The report of the Special Committee appointed at the last meeting to take such action as it might deem proper regarding the

DEATH OF DR. SAMUEL D. GROSS,

was presented, in behalf of DR. AUSTIN FLINT, Chairman, by Dr. T. G. Richardson, of New Orleans. The report submitted some reflections on his life—a life memorable for services in behalf of medicine and the medical profession; a life precious as an example; and a character which inspires esteem and affection.

The life of Prof. Gross, from the beginning to the end of his long professional career, was a life of work—work as a student, a writer, a teacher, and a practitioner. From first to last he was a diligent student. His pen was never idle, and the six editions of his great work, *A System of Surgery*, represent an immensity of labor. At the outset of his professional life he resolved to become a medical teacher, and in many respects he was a model teacher. As a speaker, he was fluent, deliberate, clear, and emphatic. His tall, commanding figure, his clear voice, his zealous manner, all contributed to render his teaching effective, but his pre-eminent success was an outcome of his love of the labor, and a deep sense of the responsibility which the duties of a teacher involve. As a practitioner, his characteristics, irrespective of his ability and skill, were attentiveness and a deep interest in his cases, conjoined with geniality and kindness.

Turning from the life-picture of Prof. Gross in its professional aspects, the contemplation of his character as a man awakens higher sentiments than admiration. As a student, author, teacher, and practitioner, he was grand, but it is more pleasing to associate his memory with his domestic and social relations. We cannot but admire the achievements of his intellect, but the excellency of his heart inspired affection and love. We shall see him no more in this world, but his life-work and his character death cannot destroy. These remain a priceless legacy to the profession which he loved, and which will ever hold his memory in grateful remembrance.

DR. J. S. BILLINGS, U. S. A., in behalf of DR. AUSTIN FLINT, of New York, who was unavoidably absent, presented a report from the Committee to secure a Congressional appropriation for a fire-proof building for the

ARMY MEDICAL MUSEUM AND LIBRARY.

He stated that through the efforts of the Committee and the individual aid of the members of the Association, Congress, after having had the subject under consideration for four years, at its last session granted the requisite appropriation for the erection of the building, and the work will be commenced at once. The building will be located on the Smithsonian grounds, near the National Museum, and will be a plain but substantial structure. On behalf of the Surgeon-General, he extended thanks to the Committee and to the Association for their confidence in the present management of the Library and Museum, as shown by their continued and earnest endeavor to secure this appropriation.

DR. BILLINGS also, in behalf of Dr. Flint, Chairman of the Committee appointed at the last meeting to present at Copenhagen an invitation, "on behalf of the Medical Profession of the United States," to

THE INTERNATIONAL MEDICAL CONGRESS

to meet in Washington, in 1887, with power, if accepted, to make all necessary arrangements therefor, reported that the invitation had been tendered and accepted; that meetings of the Committee had been held in Copenhagen in August, in New York in October, and in Washington in November, and the result of their preliminary work was stated. He further stated, that the Committee expected to be prepared to present a full programme for the Congress at the next meeting of the Association.

DR. J. M. KELLER, of Arkansas, moved that the consideration of the report be made the special order for Wednesday, at 12 o'clock.

DR. A. L. GIHON, U.S. N., presented, through the Secretary, a report of the Committee appointed to consider the advisability of the erection, in the City of Washington, by the Association of a

STATUE OF DR. BENJAMIN RUSH.

Consideration of the report was made a special order of business for Friday.

MEMBERS BY INVITATION.

On motion, Drs. Edward Jones, A. B. Miles, C. J. Rickham, of New Orleans, A. E. Foote, of Philadelphia, J. G. Ganthreaux, of Louisiana, and James R. Scarborough, of Kentucky, were invited to seats on the floor.

THE DISCOVERY OF ANÆSTHESIA.

THE SOUTH CAROLINA MEDICAL ASSOCIATION presented a communication stating that at its meeting in 1884, the following resolution was adopted:

Resolved, That the delegates from this Association be requested to present to the American Medical Associa-

tion at its next session, the Report of the Committee on the Discovery of Sulphuric Ether, made to the Association at its last session, and request that body to take such action on the subject of the report, as they in their judgment may determine in view of the claims therein set forth.

Dr. R. Beverly Cole, of California, remarked that the importance of the resolution rendered it deserving of careful attention, and he moved its reference to the Section on Practice of Medicine with a request for a report. Adopted.

Wednesday, April 29th.—Morning Session.

After prayer, and the reading of a telegram from ex-President William O. Baldwin, of Alabama, regretting his inability to be present, the Committee of Arrangements presented a further report, and the Secretary announced the names of the members of the Nominating Committee.

Dr. H. D. Didama, of Syracuse, N. Y., then delivered

THE ADDRESS IN MEDICINE.

(See page 484.)

Dr. R. Stansbury Sutton, of Pittsburg, delivered

THE ADDRESS IN OBSTETRICS,

which will appear in full in The Medical News of next week.

Dr. W. C. Van Bibber, of Maryland, then made some suggestions in regard to the

CONSTRUCTION OF A HEALTH CITY IN FLORIDA.

Before he had completed his remarks the order of the day was called for, and his paper was referred to the Section on State Medicine.

The consideration of the report of the Committee on Organization of

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was then announced to be in order.

Dr. J. V. Shoemaker, of Pennsylvania, protested against the acceptance of the report, and stated that the American members who were present at Copenhagen had been entirely ignored by the Committee. He declared that the advocates of the New Code had given the Committee to understand that they must be recognized. The Committee had joined hands with these men, and had elected themselves to the most prominent offices of the Congress. He asked whether the Association had authorized this Committee to elect officers for the Congress. The members of this Committee had ignored the Association, and they have made fun of it for the last ten or twelve years. He asked what was meant by the statement that a complete programme would be presented at the next meeting? It meant the Councils of the Sections would be filled by a clique, and then those who had been left out would be told that there was no more room.

Dr. F. E. Daniel, of Fort Worth, Texas, offered the following preamble and resolution:

Whereas, At the last meeting of the American Medical Association a committee was appointed to confer with the International Medical Congress, at Copenhagen, with a view to securing the next meeting of that body in 1887 at Washington, and to arrange for the said meeting; and

Whereas, This Committee, after accomplishing this object, have proceeded, without authority from this body, to appoint the officers of the Congress, which have been published in detail in the Journal of the Association and other publications, thus giving the aspect of authoritative action on behalf of this Association; and

Whereas, This Association recognizes the Committee as a Committee of Arrangements only, and in so far as the duties of the Committee have been performed, it declines to endorse the said appointments; therefore,

Resolved, That the Committee on Nominations be instructed to prepare and present to the Association nominations for the officers of the Congress and its various Sections.

Dr. J. S. Billings, U.S.A., expressed surprise at this movement. The statement which had just been made, that the Committee was threatened by New Code men, or that any bargaining was had with them, or anyone else, was totally and absolutely false. No New Code men were consulted by the Committee, or had any knowledge of the preliminary work at Copenhagen. He called attention to the resolution of last year which appointed the Committee, and gave it the power—if the invitation was accepted—to add to its membership, to perfect its organization, to elect its officers, and to proceed to act as an Executive Committee, with full power to fix the time and to make all necessary and suitable arrangements for the meeting, and to solicit funds for this purpose.

This Committee, consisting of Drs. Austin Flint, of New York; Henry F. Campbell, of Georgia; L. A. Sayre, of New York; I. Minis Hays, of Philadelphia; Christopher Johnston, of Baltimore; George J. Engelmann, of St. Louis; J. M. Browne, U. S. N.; and J. S. Billings, U. S. A., presented the invitation at Copenhagen, and, upon its acceptance, were constituted the Organizing Committee of the Congress. This Committee, under the power given it, enlarged its number to twenty-five, so that it should thus be thoroughly representative of every section of the country. It then proceeded with the necessary preliminary work for the organization of the Congress, which was done, thus early, after conference, and in accordance with the advice and experience of the Committee of Arrangements of both the London and Copenhagen Congresses.

One fact he desired to impress upon the Association, that whether the Committee had acted erroneously or not, it had acted to the best of its ability and with pure and honest motives, and the character of its members was the best guarantee of his assertion. As a member of the Association, he advised that no hasty action should be taken to overthrow the reported work of the Committee, because such action would cause an unfortunate delay in the organization of the Congress, and was calculated to create an unfavorable impression abroad.

Dr. J. F. Gabriel, of Piqua, Ohio, complained that he had not been consulted at Copenhagen by the Committee.

Dr. J. M. Keller, of Hot Springs, Arkansas, considered that the Committee was responsible to the Association for its action, and it had overlooked its responsibility. He offered the following amendment to Dr. Daniel's motion:

Resolved, That the Committee appointed to arrange for the meeting of the International Medical Congress in Washington in 1887, be enlarged by the addition of thirty-eight members, one from each State and territory, the District of Columbia, and the Army and Navy, to be appointed by the Chair. That the Committee thus enlarged proceed at once to review, alter, and amend the action of the present Committee as it may deem best.

He stated that the enlarged Committee should take into consideration what had been said in the discussion, and it should place no man in any position who is in direct opposition to the Code of Ethics of the American Medical Association.

Dr. R. Beverly Cole, of California, in seconding the amendment, said that in his opinion the Committee had erred in its action after inviting the Congress, but he was too cosmopolitan to accuse men of such high standing of participation in any but honorable procedures, but he was strongly opposed to giving positions of honor to any New Code men. He had always been taught to reverence Eastern men, and he still reverenced them, but too much exaltation had made them arrogant. He hoped that, if the resolution were adopted, the selections and appointments already made would be revised, but that the whole preliminary work of organization would not be undone.

Dr. Willis P. King, of Sedalia, Mo., said that he could not accuse of dishonesty such men as compose this Committee, but they had considered only the great North and East, neglecting the West and South. He was fully in accord with the spirit of the resolution offered, especially as regards the decapitation of New Code men.

Dr. J. V. Shoemaker, of Pennsylvania, said that New Code men had made threats at Copenhagen in his presence, hence the statement that he had made was true, as men who made these threats are now on the Committee.

Dr. D. D. Saunders, of Memphis, Tenn., objected to any action which would overturn the regular, systematic arrangements which had already been made, which would be the effect of rejecting the report. He moved as an amendment, That the report of the Committee be accepted and the Committee continued.

Dr. J. B. Roberts, of Philadelphia, said that he could speak on the subject—perhaps from a standpoint that the majority could not,—for, although a Philadelphian, he was acquainted personally with but a single member of the Committee; the remainder he knew, as everyone does, by reputation. He could advocate the endorsement of the action of the Committee without the bias of interest or personal friendships.

The officers selected by the Committee would, by their reputations, give character to the Congress in foreign countries. He thought, that as successful an International Congress could be held there to-day, as would be held at Washington, in 1887, if the work of the Committee was overruled. If it was the success of the Congress which was desired, he thought it would be better to endorse the action of the Committee,—even if it had exceeded its authority,—than to make public the fact that dissension and dissatisfaction exist at home.

Dr. W. N. Smart, of Grand Haven, Mich., believed that the Committee had exceeded its power, and that the Association, without question, should proceed to endorse what is proper in its action and to correct its errors.

A vote was then taken on Dr. Saunders's resolution to accept the report—yeas 88; nays 129.

Dr. Keller's amendment was then adopted: yeas 131; nays 92.

Dr. W. A. Byrd, of Quincy, Illinois, moved, as an amendment, that members of the Committee from the States represented at the meeting shall be appointed by the delegations, and those not represented shall be appointed by the President. The original resolution, as thus amended, was then adopted.

Thursday, April 30th.—Third Day.

The session was opened with prayer. The Committee of Arrangements submitted an additional report, and the reading of the roll of members was, on motion, dispensed with.

the amendment to the by-laws

offered by Dr. Foster Pratt, of Mich., last year, that each Section shall, in the future, elect its own officers, was called up.

Dr. A. S. Purdy, of New York, thought that the effect of the amendment would be to split the Association into so many smaller Associations.

Dr. N. S. Davis, of Illinois, thought that the amendment was defective, inasmuch as it did not specify the time of election.

On motion, its further consideration was postponed until next year.

Dr. N. S. Davis, on behalf of the

committee on meteorological conditions,

and their relations to the prevalence of diseases, reported that the Committee had endeavored to secure full reports from the twelve principal cities of the Union through the official bureaus. It had made a special study of ozone production and its value, and also of its tests. Of these, Schönbein's paper is the best, but it reacts to other agents. Thallium was found to be very sensitive. Observations were interrupted in some cities by changes of residence of observers. Physicians were requested faithfully to record the beginning of all epidemics. He said it was difficult to secure such service, as many promise and do not perform; yet he thought that accumulating material will permit the Committee in after years to report conclusions of value. The report was accepted.

Dr. Davis also presented a report from the Committee on the

collective investigation of disease,

which was appointed to act in coöperation with the Committee of the British Medical Association. He stated that at the International Medical Congress held at Copenhagen, an International Committee had been appointed with members from Denmark, Sweden, Russia, Germany, France, and England, and North and South America. A sub-committee had been appointed to consider subjects for consideration and to tabulate a programme to be distributed throughout the world. The Committee had decided that few questions should be asked, that they should be simple in character, and that they should relate, 1st, to geographical distribution; 2d, to prevalence of diseases in certain localities; 3d, to other etiological factors not so connected.

The report asked that the Committee should be continued, with instructions to urge upon other societies to take up the work. Several States, among which are Illinois and Pennsylvania, have already done so.

DR. DAVIS, from the Special Committee to report Explanatory Resolutions of Certain Sections of

THE CODE OF ETHICS,

stated that the Committee had given the subject due consideration, and respectfully submitted the following brief report in the form of preamble and resolutions:

Whereas, Persistent misrepresentations have been, and still are being made concerning the provisions of the Code of Ethics of the American Medical Association, which many, even in the ranks of the profession, are led to believe—as, for instance, that the Code excludes persons from professional recognition simply because of difference of opinion on doctrines—therefore

Resolved, First, that Clause I., Article IV., of the National Code of Medical Ethics, is not to be interpreted as excluding from professional fellowship on the ground of difference in doctrine or belief, those who in other respects are entitled to be members of the regular medical profession. Neither is there any other article or clause in the said Code of Ethics that interferes with the most perfect liberty of individual opinion and practice.

Second, That it constitutes voluntary disconnection or withdrawal from the medical profession proper, to assume a title indicating to the public an exclusive or a sectarian system of practice, or to belong to an association or party antagonistic to the general medical profession.

Third, That there is no provision in the National Code of Medical Ethics in any wise inconsistent with the broadest dictates of humanity, and that the article of the Code which relates to consultations cannot be correctly interpreted as interdicting under any circumstances the rendering of professional services whenever there is pressing or immediate need of them; on the contrary, to meet promptly the emergencies of disease, of accident, and to give a helping hand without unnecessary delay is a duty fully enjoined on every member of the profession, both by the letter and the spirit of the entire Code. But no such emergencies or circumstances can make it necessary or proper to enter into formal professional consultations with those who voluntarily have disconnected themselves from the regular medical profession in the manner indicated by the preceding resolution. Adopted.

DR. DUNCAN EVE, of Tennessee, then delivered the

ADDRESS IN SURGERY.

He reviewed many points in the history of surgery from the most ancient to the present time. He dwelt upon the improvement in the treatment of fractures of the skull, cleft palate, and vesical calculi, and in the application of orthopædic apparatus. The address closed with an eloquent eulogy upon the late Dr. Gross.

THE TREASURER'S REPORT

showed a balance of $932.11, and exhibited an increase in the receipts over last year of $320. The provisions made last year for the increase of membership have added one hundred and twenty-five names to the roll.

THE COMMITTEE ON PUBLICATION

presented their report, in which they stated that they had done all in their power with the small means at their disposal. They wished to place on record their high appreciation of the services of Dr. Davis as editor. The journal is free from debt. The number of members entitled to receive it is 3050, the number of subscribers is 850, and the exchanges and advertisers require 120 more. The total number of copies published is 4200, and the probable income is not much less than $6000. The total income from dues is $21,000. The expenses are $12,000, not including the expenses of the editorial office. The Committee concluded to retain the publication at Chicago, and had unanimously requested Dr. Davis to continue as editor, which he has consented to do under certain conditions.

DR. DAVIS spoke at length of the difficulties in the way of conducting the journal, and advised the exercise of prudence and patience, with a careful husbanding of resources. He opposed increasing the annual dues, as it would have the effect of decreasing the number of members—especially of new members. He said that with application and patience in ten years the *Journal* would stand in the lead.

DR. HARVEY REED, of Ohio, moved that the Association offer

PRIZES

for the first and second best papers containing original research, presented in each Section yearly. Adopted.

DR. J. B. ROBERTS, of Philadelphia, from the Section on State Medicine, offered a resolution recommending the appointment in each State of an examining board whose certificate shall be a license to practise. Laid on the table temporarily.

The Committee appointed to consider the advisability of erecting

A MONUMENT TO BENJAMIN RUSH

in the city of Washington, recommended that such monument be erected by dollar subscriptions, and provided for the appointment of a Committee to carry out the object of the resolution.

The Nominating Committee then presented the following list of

OFFICERS FOR THE ENSUING YEAR:

President.—William Brodie, M.D., of Michigan.

Vice-Presidents.—Samuel Logan, M.D., of Louisiana; A. Y. P. Garnett, M.D., of the District of Columbia; Charles Alexander, M.D., of Wisconsin; and W. F. Peck, M.D., of Iowa.

Section of Medicine.—J. T. Whittaker, M.D., of Ohio, Chairman; B. L. Coleman, M.D., of Kentucky, Secretary.

Section of Obstetrics.—Seth C. Gordon, M.D., of Maine, Chairman; J. F. Y. Paine, M.D., of Texas, Secretary.

Section of Surgery.—N. Senn, M.D., of Wisconsin, Chairman; H. H. Mudd, M.D., of St. Louis, Secretary.

Section of Ophthalmology.—Eugene Smith, M.D., of Michigan, Chairman; J. F. Fulton, M.D., of Minnesota, Secretary.

Section of Diseases of Children.—W. D. Haggard, M.D., of Tennessee, Chairman; W. B. Lawrence, M.D., of Arkansas, Secretary.

Section of State Medicine.—J. H. Rauch, M.D., of Illinois, Chairman; F. E. Daniel, M.D., of Texas, Secretary.

Section of Oral and Dental Surgery.—J. S. Marshall, M.D., of Illinois, Chairman; A. E. Baldwin, M.D., of Illinois, Secretary.

Committee on Necrology.—J. M. Toner, M.D., of the District of Columbia, Chairman.

Judicial Council.—R. A. Kinloch, M.D., of South Carolina; D. D. Saunders, M.D., of Tennessee; T. G. Richardson, M.D., of Louisiana; C. A. Ketchum, M.D., of Alabama; George Baird, M.D., of West Virginia; J. M. Toner, M.D., of the District of Columbia; A. M. Pollock, M.D., of Pennsylvania.

Time and place of next meeting.—St. Louis, on the first Tuesday in May, 1886.

AMERICAN SURGICAL ASSOCIATION.

Sixth Annual Session held in Washington, D. C., April 21, 22, 23, 24, 1885.

(Specially reported for THE MEDICAL NEWS.)

WEDNESDAY, APRIL 22D.—MORNING SESSION.

IN continuation of the discussion on Dr. Roberts's paper on

THE FIELD AND LIMITATION OF THE OPERATIVE SURGERY OF THE HUMAN BRAIN,

DR. DAVID PRINCE, of Jacksonville, Ill., said that he agreed in the main with the principles of the paper. From being one of the most dangerous, trephining has become, since the introduction of antiseptic methods of treatment, one of the safest operations of surgery. He could call upon his experience with regard to the difference between the results under the old and the new methods of treatment. He had never seen serious complications as the result of the operation. With reference to the statement that the patient could go home immediately after having his head trephined, he thought the paper misleading, for there is nothing so important to an individual after a serious operation like this as rest. Even where the patient was in perfect health prior to the operation, rest for a considerable period should be enjoined.

DR. JOHN H. BRINTON, of Philadelphia, spoke with reference to the first paragraph of the paper, "The complexus of symptoms called 'compression of the brain,' is not due so much to displacing pressure exerted on the brain substance as it is to some form or degree of intracranial inflammation." Is that, he said, altogether true? Is it not calculated to carry with it some misunderstanding? I do not think that we can say that these symptoms are due, to any great extent, to intracranial inflammation. The displacing pressure is more probably the point to which we look, and to which we should address our treatment. In a case seen by him, an individual, seventeen or nineteen years of age, had received a depressed fracture of the frontal bone extending almost from one external angular process to the other. One fragment overlapped the other. With a Hey's saw, he removed a considerable portion of the protruding bone, and coaptated the edges, the bones slipping into place with a snap. All the symptoms were immediately relieved, and the patient conversed rationally with him almost before the completion of the operation. He believed in the early use of the trephine, but not because he considered it a trivial operation.

One of the previous speakers had pronounced the lateral ligature of a sinus an impossibility. This was a mistake. In a case that came under his observation, in which a child's skull had been fractured by the kick of a horse, he had succeeded in tying the lateral sinus laterally. The difficulty of the operation disappears when a large enough piece of the bone is removed to enable the operator to get rightly at the vessel. He did not think that there was much difficulty in arriving at the proper line of treatment in cases of compound fracture, whether the symptoms be mild or grave. The only cases in which there is doubt are those in which an individual is suffering from a simple depressed fracture with few or no symptoms. Such a case may to-day have no symptoms, but to-morrow, or next day, he may have acute traumatic encephalitis and die, or he may pass out from observation for a long time, and eventually suffer from epilepsy. What is the treatment? This has been well summed up by a distinguished author who was well known to the Association, when he says, in his *System of Surgery*, "Surgeons have been much divided in opinion, some favoring, others condemning operative interference. The judicious practitioner will be governed in the choice of his remedies by the circumstances of each individual case. When the fracture is of small extent, free from comminution, and without much depression, the only rational plan is not to attempt elevation, but to treat the patient upon general principles, using depletion by the lancet, leeches, and other means, with a view of preventing inflammation and other evil consequences. If, on the other hand, the bone is forced down considerably, so as to impinge very decidedly upon the brain, or if it be comminuted or jagged at the edges, the sooner it is raised or removed the better, since if it be allowed to remain it cannot fail to become a source of trouble, either by exciting inflammation, or by causing serious secondary effects. I am fully, indeed painfully, sensible of the responsibility which I incur in giving this view; but I feel satisfied, after mature consideration, aided by the light of experience, that it is the best, if not the only proper course to be pursued under the circumstances. A man laboring under such an affliction is never free from danger; he may get well, or be well to all appearance, and yet be only partially cured, subject at any moment to have his mind and life imperilled by the broken bone. It is like the sword of the tyrant suspended over the head of his subject." It seemed to Dr. Brinton that there is in that lesson but little to be added and but little to be taken away.

DR. T. A. MCGRAW, of Detroit, remarked that it had been stated that the brain will accommodate itself to a reasonable amount of pressure. That is true of children, but it is hardly so true of adults. He then reported the case of a negro painter, who fell from a scaffold, sustaining a simple fracture of the skull with smooth edges. A year elapsed before any symptoms arose; then the individual began to become giddy whenever he ascended to a scaffold, and was obliged to abandon his employment. Finally, he came to the hospital, and into the care of the speaker. The trephine

was applied, the depressed bone removed, and all the symptoms immediately disappeared. This he considered most certainly a case of simple and uncomplicated compression. He referred further to what had been said by a speaker of the day previous, that after the symptoms of inflammation have developed, operative procedure is of no value, and remarked that he must take exception to that opinion. If you have a felon, you lance it to relieve the tension, before suppuration has really occurred; the same may be done in these cases for the same purpose.

Dr. P. S. Conner, of Cincinnati, remarked that the Fellows appeared to be of one accord upon the general statements of the paper, namely, that for an open fracture of the skull, the trephine should be employed. Where we trephine in the absence of an open wound, we take away the chances for the case to become a severe one. He did not consider the operation a trivial one, however, for the apparently most trivial cases have a mortality of 10 or more per cent. But we know that the worst cases are those in which the injury produced little damage of the outer table, at the same time producing serious fracture of the inner table. Under such circumstances some individuals recover much more favorably when the damaged portion of bone is removed than if it is allowed to remain. While the laceration of the soft parts adds some danger to the case, and while it is better to have the wound remain a closed one, the danger is so little increased by converting it into an open wound that we should not hesitate in doing so, if we can do good by it.

With reference to the exploration of gunshot wounds of the cranium, he expressed surprise at the confidence of some of the speakers of yesterday. It is not a simple matter for the surgeon, and especially an inexperienced one to push probes into the skull. It is sometimes impossible to follow the course of a bullet, for we have no means of knowing what direction it will take. Besides we are told of late that the bullet, or the spicula of bone that are sent in all directions through the brain, do no harm, but that it is the entrance of germs that cause irritation. This, he considered erroneous, and that there is always danger from laceration of the brain-substance. As a rule, however, a very large amount of the vault of the cranium has to be depressed before there will be produced any symptoms of compression. It is estimated that from a twelfth to an eighth of the vault must be depressed before these symptoms will arise. In most cases we will find that other causes, as a blood-clot for instance, are making the compression. Between the ages of eight and twenty, a considerable compression can be made without danger. While all believe in prompt operations, we are all ready to wait and watch, for if too hasty operations are performed, it is clear that some cases will die that would otherwise recover.

Dr. N. P. Dandridge, of Cincinnati, reported a case that came under his observation during the late riots in Cincinnati. A German was struck on the right side of the head by a bullet, on a level with the median line and about two inches from it. He was taken at first to the hospital in an unconscious state, but was removed next day to his home, and he did not again see him until six weeks after. He then found a linear fracture without evident depression. The symptoms which were present were a paralysis of the forearm of the opposite (left) side, and a frequent twitching of the face, occurring at short intervals without unconsciousness. The man had not fully recovered his intellectual powers, but was able to take nourishment, and was improving in general condition. Following the accident there was complete unconsciousness, lasting for some hours, and at the time when he saw him again, the patient was not able to recall what had happened during the first few days after the injury.

This was a case of compound fracture of the skull over the motor area, followed by a paralysis of the muscles of the opposite side, corresponding to the centres which we have learned lie under the point of injury. Of course, the question of operative procedure at once arose. But as the case was progressing so favorably without aid, it was decided not to attempt interference. In the course of a few days, the spasm ceased entirely, and the man made a good recovery, the paralysis of the forearm entirely disappearing in the course of three or four weeks, leaving only slight numbness of the little finger which is still present after the lapse of a year. Had he seen the case at the start, he thought that he would have been inclined to apply the trephine at once and elevate the depressed bone.

With regard to the brain symptoms as a guide to the resort to operative procedure, he did not think sufficient stress had been placed upon the difference in the severity of the symptoms corresponding to the differences in severity of the injury. If we were to wait until the appearance of symptoms after fracture of the frontal bone, we would often wait until permanent damage had occurred. The question of operative procedure is to be decided, in many cases, very largely by the seat of the fracture.

Dr. B. A. Watson, of Jersey City, reported a case illustrative of the power of the brain to accommodate itself to pressure. A case was brought to him with a depressed fracture of the inferior angle of the right parietal bone, twelve hours after the receipt of the injury, still unconscious and incapable of being aroused. He was able distinctly to locate a fracture of the external table. He hesitated somewhat with regard to the procedure to be adopted, but finally determined not to interfere. The individual suffered for three weeks from acute delirium, then gradually regained his senses. Within six weeks he had so far recovered that there was left only a paresis of the side of the face and a partial aphasia. A year and a half after the receipt of the injury there was still a marked depression at the seat of the fracture, but the man was able to perform his duties as a police officer. Since this time he entirely recovered. While it is true that the brain of the child will accommodate itself to pressure, it is also true that in a great many cases the brain of the adult will, in like manner, submit to such circumstances.

Dr. W. T. Briggs, of Nashville, said that this is one of the most vexed questions in surgery, and one of the least settled, as is proved by the length of the discussion which the paper has elicited. He would only speak of one or two points that were not touched upon in the paper, and they were with reference to the character of the injury. There are two distinct classes of fractures of the cranium. The first is a diffused fracture, as where an individual falls from a height, or has a large body

strike his head. In these cases the injury does not stop at the cranium, but involves the brain, and in these cases the trephine is not to be employed. It cannot benefit the injury to the brain. In another class of cases the fracture is not so extensive, and in those cases the trephine is called for where there is a circumscribed injury of the bone, and where it is confined to that structure. For the simple symptom of compression due to depressed bone, except in rare instances the trephine is unnecessary. Most symptoms are dependent upon disturbances of circulation or molecular changes. The symptoms of compression and of inflammation he considered very similar. Where the depressed bone is broad the symptoms will pass off, and there is no need for the trephine; but where the fragment is acuminated, we do not meet with symptoms of compression from the depression of bone. Where compression manifests itself in such cases, it is generally due to some other condition. In many of the cases it is due to an accumulation of blood, and where blood is thus poured out, there is danger that, by the continual accumulation of blood, the compression will be kept up until death occurs.

Where the compression is due to the formation of pus, we should follow the rule for such conditions in other parts of the body, namely, to evacuate the pus. But the chief, and in fact the only use of the trephine, is for the removal of points of irritation produced by depressed fragments or spicula of bone which are pressing upon the membranes and depressing the brain. We may and we may not have signs of compression in these cases. These symptoms may pass off in a short time, to be followed by other symptoms—symptoms of irritation of the brain, indicative of the commencement of inflammation. The patient then lies upon one side, with his arms and legs drawn up, and there is a twitching of the face. He is semi-comatose, but can be aroused by calling his name. Where there are symptoms of compression of the brain, it is the imperative duty of the surgeon to resort to operative procedure and to apply the trephine at the earliest possible moment. It is then only useful for preventing those changes which cannot be cured. He had for the most part made a mistake in comparing open fractures of the skull with open fractures of other bones, and the question that had been asked—Who would think of converting a simple fracture of one of the long bones into a compound fracture?—had no bearing upon the question under discussion. There is an anatomical difference between the cranial bones and the other bones, both in their structure and in their surroundings. It had been his practice to cut down upon a fracture of the skull and make a free opening, in all cases of doubt. This gave to the surgeon a feeling of relief in the consciousness that he knew the actual condition of the case.

As for the operation of trephining, there was no danger in the mere removal of a button of bone, so long as care was taken not to injure the tissues beneath. But he thought that exploratory perforations of the cranium should be done very guardedly, and he would not resort to it unless symptoms were present indicating at least the possibility of more serious damage to the internal table than to the external. With regard to the operation of ligating the vessels of the skull, he had never experienced any difficulty in arresting the hemorrhage by pressure.

Dr. Roberts, in closing the discussion, remarked that the views that had been expressed, although critical, had tended rather to strengthen than to overthrow his faith in the propositions he had stated, the truth of which he thought would be more generally accepted five years from now than at the present time.

A distinction must be made between the term compression and pressure. The brain is a jelly-like mass, filling up an oval cavity and a long tube. It is so surrounded by fluid that compression is almost an impossibility. Pressure upon it, unless of extraordinary severity, will not compress it. It has been urged in opposition to the statement in the first proposition, that symptoms come on too rapidly to be due to compression. This is not an evidence that the brain has been compressed; neither is it an evidence that there has not been developed an inflammation. If a man runs his finger into his eye, he does not develop compression, but within a very few seconds there are symptoms of irritation and inflammation. The symptoms that are usually attributed to compression are, as a rule, due either to shock, laceration, contusion, or that obscure symptom called concussion, which he did not believe in as a functional disease. It should be called multiple or comminuted laceration. The nerves of the brain, branches for the most part of the trigeminal nerve, are usually lacerated in these cases, and may have something to do with the symptoms which so quickly develop, and which are due to rapid inflammation; and it is not at all impossible for inflammation to arise before the surgeon has arrived. If the brain were a hard ball enclosed in the skull, there would be no such thing as intravenous hemorrhage of any consequence.

He did not intend to convey the idea that open wounds were to be preferred to closed ones. On the contrary, he thought it wise to permit the wound to remain closed, if possible; but he would prefer in all cases an open wound to a closed one, with obscurity as to the damage with which he was dealing.

The statistics of Amidon had been criticised by a former speaker. Admitting that that author had been incorrect in fifty per cent. of his cases, and dividing his statistics by two, the statement of his paper was still correct, namely, that the operation of trephining is but little more dangerous than that of amputation through the metacarpal bone.

With regard to probing and drainage, he said that we owe to Dr. Fleurer more than to any man who has written lately for his remarkable success in these respects. The method of that surgeon was then described. The probe that is used for exploration of the brain should be very light and should be armed with a large olive-shaped tip, so that it cannot do injury to the brain. It should then be allowed to drop into the track of the ball by its own weight without any force from the hand of the operator. Dr. Fleurer has had a probe made of aluminium, in order to secure lightness.

Referring to the case reported by Dr. Prewitt, he said that the reason for there not being disturbances of sensation in the case in which so large an amount of brain matter was removed from the parietal region, was that the point of injury was in the posterior portion of the

parietal bone, and not in the anterior, where the centre of sensation is situated.

He then reported the case of a child in which there was a fracture of the parietal bone of so great extent that pressure over the seat of fracture caused blood and air to escape from the ear. It was a case that would have been considered one of fracture of the petrous portion. He trephined, removed the fragments, and the child recovered.

In conclusion, he called attention to the fact that he had not said that the trephine should be applied in all classes of cases but two. In two classes of conditions, he had said that the trephine should not be employed under any circumstances; in two, that it should possibly be used; in two, that it should probably be used, and in another, that it should always be used.

Dr. S. W. Gross, of Philadelphia, then read a paper on

NEPHRECTOMY: ITS INDICATIONS AND CONTRAINDICATIONS.

The information for his paper he had collected from a large number of sources; from the authorities who had written on the subject and from correspondence with a large number of eminent men at home and abroad. He was inclined to think that the operation was made more frequently than is proper, and he had endeavored to define as accurately as can now be done the cases in which it should and those in which it should not be performed. He also considered it in connection with the operations of nephrolithotomy, nephrotomy, and nephrorrhaphy.

The paper will appear in full in *The American Journal of the Medical Sciences* for July.

Dr. L. McLane Tiffany, of Baltimore, then read a paper on

NEPHROLITHOTOMY.

It was based upon the report of a case in which the author had successfully removed a calculus weighing 556 grains from the pelvis of the right kidney after the subject had suffered from symptoms for a period of six years. After reviewing the several steps of the operation and the methods employed, he entered into a discussion of the etiology of the affection, the symptoms and the various modes of treatment, together with a review of the statistics of operations. In discussing the symptomatology, considerable stress was laid upon the character of the pain, and the statistics of a large number of cases were reviewed with reference to this and other symptoms. This paper will appear in full in an early issue of The Medical News.

Dr. S. W. Gross congratulated Dr. Tiffany upon the successful termination of his case, the more particularly because he had removed from an otherwise healthy kidney the largest calculus that has as yet been recorded, the only one approaching it being the concretion, weighing nearly one ounce, excised by Mr. Bennett May.

As Dr. Tiffany has stated, the operation is a comparatively safe one. Thus, of 21 cases that Dr. Gross had collated, 2, or 9.52 per cent., died—the patient of Cullingworth from the blocking of the opposite ureter by a stone, and that of Mr. Pepper, as he writes me, from the effects of morphia. In Mr. Thornton's 3 cases, the operation was by the combined lumbar and ventral incision, while the remainder were by the lumbar incision. In the cases of Butlin, Anderson, and Cullingworth, the stone was removed through an incision in the pelvis of the kidney.

He also agreed with the author of the paper in regarding the diagnosis of renal calculus as being far from easy. Intermittent attacks of renal colic, with tenderness on pressure, the presence of blood, and, it may be, of a little pus, in the urine, with frequency of micturition, are, in the absence of vesical and prostatic lesions, the best diagnostic signs; but they may be present in cases of highly acid urine, and in the early stage of tubercular kidney. The group of symptoms which he had just mentioned being present, the surgeon is certainly warranted, after the failure of ordinary remedies to relieve them, in cutting down upon the kidney through the loin, with the view to its exploration with the fingers, a needle, and, if needed, by an incision of the kidney substance itself, through which the finger can be carried into the calices and pelvis of the organ.

And this brought him to the third conclusion, that incision down to and exploration of the kidney are eminently proper, in which he entirely agreed with Dr. Tiffany. Thus, of 22 exploratory operations which he had collated, all recovered, and the organ was incised in 3. Should incision in every case of failure of the ordinary methods of exploration to detect a stone be the practice of the future, the risks will doubtless be added to; but he believed that Mr. Morris is right in recommending its adoption. It certainly should be resorted to before the kidney is sacrificed by extirpation.

Dr. J. W. S. Gouley, of New York, called attention to the report of a somewhat similar case that was read at the first meeting of the New York State Medical Association. In his opinion, a great deal of good was done by crushing the stone before an attempt was made at its removal, as had been done in both these cases. In the case just reported the stone was made up chiefly of the phosphate of lime. This he considered an important point, as throwing light upon the remarks that were made at the last meeting of the Association, when it was stated, in contradiction of his views, that a stone found in the prostatic portion of the urethra, and consisting chiefly of the phosphate of lime must of necessity have had its origin in the prostate. This he thought proved his former statement, that any inflamed mucous membrane would lead to the formation of such a calculus. He also considered the incision through the outer edge of the kidney preferable to the incision through the pelvis, as being less liable to result in permanent fistula. A free incision should also be made.

Dr. T. A. McGraw, of Detroit, remarked that calculi are rare in the State of Michigan, but for that reason he could give one or two suggestions as to their pathology when they do occur. The stones are almost invariably the result of obstruction, coming chiefly from a stricture of the urethra or an injury of the prostate. While stones are rare, there are a good many cases of renal abscess in the State, and he had observed that in these cases, where the ureters remained impervious, there were found no small calculi, but where the ureter has become thickened so as to cause an obstruction to the flow of urine, calculi are apt to be met with.

Dr. P. S. Conner remarked that we are much en-

couraged in resorting to operative procedure in serious cases by the happy result that has been reported for these cases. We are encouraged to cut down upon these kidneys, knowing that if we find a stone we will relieve the kidney of its trouble, and that if we do not find a stone we will do no injury to the patient.

Dr. T. F. Prewitt, of St. Louis, asked for more definite statements in regard to the comparative advisability of cutting through the kidney substance and the pelvis.

Dr. Tiffany stated that all the cases with which he was acquainted, including that reported in the volume of the New York Medical Association's Transactions, which, however, he did not think properly came under this head, where the incision was made through the substance of the kidney, had recovered. As far as his own views were concerned, he would prefer that method of operation. He thought further, that the part of the kidney that was exposed by the incision was the proper place to incise the gland, without attempting to get at the posterior part. In his operations, he had opened the abdomen by means of Langenbeck's incision and cut through the kidney at the point where it brought him upon it.

Dr. Gouley still maintained that the case to which he had called attention should be classed in the same category as the case reported by Dr. Tiffany, for if we eliminate all cases in which there is something in the pelvis of the kidney besides the calculus, there will remain no such cases as pure nephrolithiasis, and carrying the point a little further, there is no such thing as a case of pure vesical calculus.

Dr. Gross stated that there is no cause to fear hemorrhage from an incision of the kidney-structure, for the flow of blood can readily be arrested by the application of pressure with a sponge for half a minute. With regard to the point of the kidney that should be incised, he thought that we should enter at the spot which is the most accessible, whether that be the pelvis or the cortex. He further called attention to the difference between the operation for calculus and that for calculous pyonephrosis, or calculous hydronephrosis.

The Association then adjourned.

The afternoon was devoted to a visit to the Johns Hopkins University and Hospital, in Baltimore.

Thursday, April 23d.

Morning Session.

Dr. J. Collins Warren, of Boston, presented a communication on

the healing of arteries after ligature.

He apologized for the presentation of a paper upon a subject that had been discussed by the Association so recently as last year, by the statement that it was a subject to which he had for several years given especial attention.

After reviewing briefly the history of the subject, and referring to the investigations that have been made by numerous authorities, ancient and modern, he remarked that the investigators who have interested themselves in the process of repair in arteries, have considered the question usually from some special standpoint, such as "the organization of the thrombus," "the part played by the white corpuscles," "the endothelium," etc. The object of this paper was, however, to study the various pathological changes which occur in and around the vessel during the entire process of cicatrization. These changes may be compared not inaptly to those which occur in the repair of fractures of long bones. In both we find an external and an internal callus, the former having only a provisional existence in the case of arteries, the latter undergoing certain changes through which the lumen of the vessel is, though imperfectly, reëstablished by the so-called "canalization" of the thrombus. In the meantime, the walls of the vessel are undergoing changes which enable them to participate in the final process of repair.

Where a large artery is tied in its continuity, the intima and a portion of the media are usually ruptured, and the adventitia is gathered into a dense pseudo-tendinous sheath around the constricted ends. The first noticeable change is the formation of the thrombi, and the development of a granulation-like mass of cells about the ligature, which, if it has been cut short, is completely enveloped by it. This is a true connective-tissue growth, and covers the end of the vessel just as the granulations cover the surface of a wound. We find further, that this tissue extends some distance up and down the sides of the divided vessel in the peri-adventitial tissue, the round cells of which it is composed invading only the superficial layers of the adventitia. At first, the cells do not penetrate at the point of ligature where the fibres are densely packed, but they follow the ligature as it cuts through, and appears to exert a solvent action on the resisting fibres of the adventitia. In case a double ligature has been placed upon a vessel, the granulation cells enter the isolated central portion at the retracted ends, and not directly through the walls, as some investigators have supposed, and gradually disintegrate the various coats, invading them eventually from every point. The process is, however, a slow one.

Advanced changes are seen in the proximal thrombus as early as the fourth day. By the fifteenth day, the new tissue has become very abundant, and has the appearance of granulations growing into and replacing the thrombus. By the end of a month only fragments of the thrombus remain, and the granulations presented themselves to the lumen of the vessel. The walls of the vessel are, during this time, undergoing certain changes. The cells of the intima unquestionably proliferate. This proliferation can be studied in specimens in which the distal thrombus is small, and in the space between two ligatures; the amount of this tissue developed is, however, sufficient to supply but a small part of the internal callus. The part taken by the endothelium appears to be one which furnishes a new endothelial covering to the cicatricial tissue, and a lining to the new vessels that have been formed. At an early stage of the process, cells are seen springing from the muscular layers and projecting into the thrombus. Later, elongated spindle-cells with stellate nuclei become apparent. These are sometimes single, sometimes in bundles, and were, he believed, a new growth of muscular tissue. At the point of ligature, the elastic lamina appears frayed out, and is seen extending in various directions through the new tissue; the media begins by the end of the second week to retract, as does

also the adventitia, leaving a space through which vessels eventually find their way, and communicate with those coming down from the lumen. At the end of three months, the cicatricial process is complete and only a cicatrix remains.

He called attention to the remarkable infrequence of aneurismal dilatations after ligation, and gave in explanation thereof this development of a tissue so closely resembling the three layers of the vessel wall, and having all the powers of resistance which they possess. In the larger vessels of the human subject, where there is less muscular and more elastic tissue, the new muscular tissue is not so apparent, but the connective tissue is greatly increased in quantity and extends for a long distance into the lumen of the vessel. In the specimen of the ligatured carotid artery of a horse, this amounted to about four inches.

Dr. N. Senn, of Milwaukee, expressed gratification at the beautiful specimens presented by Dr. Warren, as well as for the demonstration which he had given, but especially for the view he had expressed regarding the part taken by the muscular fibres in the formation of the cicatrix. He took exception, however, to the manner in which the experiments had been made, because traumatisms of the vessel walls had occurred in almost every instance, and because antiseptic precautions had not been carefully employed. All that is necessary for the definitive closure of a vessel is simply to approximate the surfaces of the intima without causing rupture of any of the tunics. In the first illustration exhibited by the author, both intima and media had been ruptured. It was, in his opinion, on account of this rupture that embryonic corpuscles were found in the vessel. Such rupture, he further thought, was not only unnecessary, but positively harmful. The behavior of the tunics depends upon the character and material of the ligature used, and upon the intensity of the inflammation which results after the application of the ligature. The amount of callus that is produced corresponds closely to the amount of inflammation that is developed. In his own experiments he had observed that in cases where his antiseptic precautions failed, an enormous amount of callus was developed; and although he had not, in any of his experiments, met with secondary hemorrhage, the fact is patent that such an accident may take place at any time, regardless of the amount of callus, provided suppuration has occurred.

When the ligation is performed with the "temporary ligature" (catgut), it is unnecessary to cause division or absorption of any of the tunics of the vessel. After contact of the vessel walls for a period of from seven to twenty days, union occurs and the callus is removed without the division of the tunics. Such, however, is not the case when a permanent ligature is applied. The ideal ligature is one which, being applied, keeps the parts in contact until the definitive closure of the vessel has occurred, and which is then capable of being absorbed. He expressed pleasure at the comparison made between the conduct of a vessel after ligature and that of a bone after fracture. He would, however, carry it a little further and remark that the proper treatment of a fracture of bone is to hold the fragments in contact in such a manner as to insure as small an amount of callus as possible. Callus is only necessary for the purpose of establishing the continuity of bone. In a fracture in which the fragments are not in apposition, or for some reason are not kept in apposition, there is always an abundance of callus. We should endeavor also after ligature to obtain a minimum amount of callus, for if we succeed in obtaining primary union, there is no need of the callus.

The idea of the development of a muscular cicatrix is a new one, which, he hoped, future observation would prove correct; although it was evidently contrary to analogy. We all know that repair of muscle after rupture or division takes place not by the growth of new muscular fibres, but by a cicatricial formation developing from the connective tissue substance lying between the muscular fibres. He had further observed that after muscles were wounded, the fibres invariably underwent fatty degeneration. Finally, he considered the rarity of the occurrence of aneurism after ligature, due to the development of so large an amount of connective tissue, rather than to any growth of new muscular tissue.

Dr. Moses Gunn, of Chicago, in referring to what had been said about ligating vessels without rupturing their coats, said that he had for several years carried in his mind a plan by which he thought that, if called upon, he could so apply a ligature to the innominate artery as to secure its closure. The contribution of Dr. Senn, a year ago, had, however, caused him to alter his method. If it is not necessary to wound the tunics of the vessel, he thought that if he were called upon to ligate that vessel he would do so by the method of double ligature referred to by Dr. Senn. Passing one ligature around the innominate and securing it, he would place a second ligature upon the subclavian and a third upon the carotid, and after having forced all the blood out of the intervening portion of the vessel, draw them down with sufficient firmness to approximate the walls of the vessel. With regard to Dr. Warren's theory of the action of the muscular fibres he could express no opinion, but he felt sure that, whatever the method adopted, it is of the utmost importance to secure union as rapidly as possible in order to have the whole strength of the vessel to aid in resisting the pressure of the blood.

Dr. Warren agreed with Dr. Senn with regard to his statement that the amount of inflammatory action corresponded in these cases to the extent of the traumatism. He had sometimes found it difficult to discover external callus, but even in cases where the strictest antiseptic precautions had been employed, as in the experiments of Mr. Lister himself, there was observed "a ring of new tissue" which was in reality the external callus. He further stated that when he at first began his experiments, he had been inclined to adopt the theory of Dr. Senn, namely, that there was no necessity for a trauma, but that he had later concluded that the view was incorrect. He had observed what he had believed a primary union between the internal coats of the vessel, but upon closer observation of the process about the beginning of the second week, he discovered that a slow process of absorption was taking place within the substance of the vessel-wall, and that this absorption was followed later by a growth of granulation tissue. He expressed full aquiescence in the theory of Rindfleisch, that so long as the intima of a bloodvessel remains intact the blood will not coagulate no matter how slow the current be, or even if the blood come to a

stand; but when once this coat is injured in the slightest degree, coagulation rapidly ensues, and a thrombus is produced.

With reference to his theory of the new growth of muscular fibres, he asked attention to the fact that there is a decided difference between the behavior of striped and unstriped muscular fibres, and that while a new development of striped muscular fibres would be an anomaly, such was not the case with the unstriped variety. Whenever we have repair of any kind going on in the body, we have new bloodvessels with muscular walls developed; new muscular fibres develop in the gravid uterus, as well as in every variety of myomatous tumor.

Dr. T. F. Prewitt remarked that Dr. Senn, in his paper of last year, ascribed no importance to the clot which forms within the ligated vessel, and that Dr. Warren had expressed himself as favoring as slight a formation of clot as was possible. He, therefore, asked what value, if any, was to be placed upon it.

Dr. Warren replied that so far as the histological process is concerned, the clot was of no importance at all, but that he considered it of great value in the prevention of secondary hemorrhage. In small vessels, its value is small in ratio, but in large vessels, where the pressure is great, its value is great. It is the first stage of a protective callus.

Dr. E M. Moore, of Rochester, inquired whether Mr. Lister had not been quoted in the Association as saying that a catgut ligature might become organized. An affirmative reply being received, he stated that when Mr. Lister's attention was called to the report of his having made the statement (as published in the Society reports), he pronounced it an error, and ridiculed the idea of a catgut ligature being converted into humanity.

Dr. J. W. S. Gouley, of New York, next read a paper entitled

SOME POINTS IN THE SURGERY OF THE HYPERTROPHIED PROSTATE.

Since the time of Sir Everard Home, our knowledge of the pathology and surgery of the prostate gland has come from the single source of M. Mercier, of Paris. His writings require careful study. Little has been added to the principles which he has inculcated, and many of his procedures are new. He has stated that fifty per cent. of all men above the age of fifty years are afflicted with more or less hypertrophy of the prostate, although only seven per cent. of these suffer any marked signs of the disease. The points to which he desired to direct particular attention with reference to this condition were the physical exploration, and the medicinal and surgical treatment of it.

Physical exploration. Digital examination per rectum will give some idea of the size and consistency of the prostate; whether one lobe is larger than the other; if it is nodulated or smooth; and whether it is of normal length or there is longitudinal increase. Very frequently a considerable enlargement of this gland will escape observation if the examination is confined to this method. Other methods of examination are, therefore, required before a diagnosis is arrived at. The next step in the examination of a case is to ask the patient to urinate in the standing posture. If he is able to urinate spontaneously, some idea of the condition of the prostate may be arrived at from the character of the stream. But it is always to be remembered that a man with a constricted urethra voids his urine in precisely the same manner as a man with an enlarged prostate. The stream flows steadily for a time, then stops, a few drops escape, the stream again flows, then a few drops, then a dribble, and so on. After the individual has discharged all the urine he is able to void spontaneously, a soft catheter is introduced, and the residual urine drawn off, measured, and examined chemically and microscopically. It may be clear, but is generally cloudy. The physical examination is further carried out by the use of certain rectangular sounds of a peculiar size and shape. Most of these instruments are of no value. To Dr. Mercier belongs the credit of having invented a small rectangular sound, which is of the greatest value. Its chief advantages are in the extreme shortness of its beak, being only seven-eighths of an inch in length. He then described minutely the method of using these sounds. Not only the size, but the exact form of the enlargement of this gland could in many instances be outlined, but for this purpose he had devised an instrument having two bars and possessing many superior qualities, all of which were detailed. Some further remarks were made as to the various conditions that were likely to be found in hypertrophy of the prostate.

He then passed to the consideration of the medicinal treatment. Although the idea of reducing the hypertrophied gland by purely medicinal means had been exploded long ago, it was constantly being revived in the hope that an infallible remedy had been discovered. Among the fashionable remedies at the present time, are mineral waters, and while he did not wish to condemn their use, he regretted that they too often led to the neglect of other more valuable methods. Remedies can also often be employed for the relief of concomitant symptoms and to the improvement of the general health of the individual.

The consideration of the surgical treatment was subdivided into two distinct parts: first, mechanical means of relief; and, second, the removal of the organ by surgical means. All hard catheters should be discarded except in cases of false routes. The method of using several curved, hard, and soft catheters, including the elbowed and the double-elbowed instruments of Mercier, were described. Among other requirements for a soft catheter was that it should have as small and as smooth an eye as possible, and never two eyes. Small catheters are usually preferred, but too small an instrument should never be used. Where false routes exist, a large catheter should be employed, and where this fails, the invaginated catheter of Mercier is usually successful, but it requires to be used with the greatest care and caution, for unless the surgeon keeps the male portion of the instrument under perfect control, it may do injury.

Evacuatory catheterization should be commenced early in the history of each case, but in old cases, where the bladder has become distended, it is of the greatest importance that all the urine be not removed at one time. The catheter should be used as often as from twice to five or six times daily. If the catheter be too freely used, many of the alarming symptoms are

relieved and the individual appears to be in a much better condition than before, but at the expiration of a few days the individual begins to show symptoms of disease of the kidneys, which rapidly increasing in severity, lead to his death at the expiration of a month or six weeks.

In some of these cases there is great difficulty to determine the proper course of treatment. Without the use of the catheter the individual must succumb; it use is unsafe. Under such circumstances, he advised the withdrawal of but a small part of the residual urine at intervals of once in several days, until tolerance was established. In one case that had come under his observation, the enlarged bladder, extending above the umbilicus, was mistaken for a hydatid cyst and tapped. After its true nature was discovered, the method of small and infrequent catheterization was adopted, with the effect of producing a toleration. Polyuria is, however, very apt to develop and carry off the patient, as the author had seen in several instances.

Another method upon which he laid great stress was the injection of medicated fluids into the bladder in a quantity to correspond to the amount of urine removed. For this means a solution of borax was most employed, but various other agents might be used, as when the urine was strongly alkaline, an acid might be added; when large accumulations of mucus and pus were present alkalies were indicated; and when phosphates were deposited in the cavity of the bladder, he recommended the use of weak solutions of acetate of potash. The use of carbolic acid he did not endorse, but considered the nitrate of silver, in properly diluted solutions, one of the most valuable agents we possess. Morphia, hyoscyamus, or cocaine, may be added in cases of great vesical irritability. Finally, hot and cold water have had their advocates.

Removal of the gland. This operation was first performed by means of incisions by John Hunter. Caustics have been employed; Dr. Physick, of Philadelphia, dilated the neck of the bladder; others have made compression with a metallic sound. Attempts have been made to ligate the tumor and some have tried to grasp it and tear it away with Jackson's lithotrite. Mercier devised an instrument for the removal of the prostate as early as 1838, and since then he has made three modifications, one for incising, and two for excising the tumor. As the inventor had not given any special name to either of these instruments, the author had taken the liberty of calling them respectively, prostatitome and prostatectatome; naming the operations prostatotomy and prostatectomy.

Dr. S. W. Gross, of Philadelphia, considered the remarks which had been made especially proper in their application to the treatment of patients after they have entered upon their "catheter life." He also endorsed the remarks upon the propriety of prostatotomy.

There can be no doubt, he continued, that the operative treatment of enlargement of the median portion of the prostate, giving rise to obstruction of the vesical orifice of the urethra, is capable of great advances. Up to the present date he regarded prostatotomy, as practised by Mr. Reginald Harrison, as fulfilling the indication more surely and with less risk to the patient, than any operation that has been devised. In the case of an old man, that surgeon opened the membranous urethra through the perineum. The obstruction was then divided, partly with a probe-pointed knife and partly by divulsion with the finger, and the edges kept apart for eight weeks by means of a large tube, through which a smaller tube was passed to conduct off the urine. The patient was able to go about in ten days. On the withdrawal of the tube, a large bougie was passed regularly until the perineal wound closed. The results of this operation were that all obstacle to normal micturition was overcome, the urine was passed every few hours, and the bladder was completely emptied. At the end of six months the patient had a paralytic seizure, but there was no necessity for a resort to the catheter.

The case was a most unfavorable one for operation, but the result was most brilliant. Through the small perineal wound the nature of the obstruction was accurately determined, and the incision was made with a degree of accuracy and safety which cannot be attained with Mercier's cutting instrument passed through the urethra.

In the *Gazzetta degli Ospitali*, for February 11, 1885, he found that Professor Bottini, of Pavia, has successfully operated on a similar case with the thermo-cautery applied to the median portion for forty-five seconds. A catheter was retained in the bladder for four days, when it was removed, and the bladder emptied every six hours. The first natural emission of urine took place on the twenty-fourth day. At the expiration of three months, micturition was normal, and the urine was clear and acid. At the end of three months and a half more, the patient was fully restored to robust health. As in the operation of Mercier, there is no certainty in operation through the urethra with the thermo-cautery; and when we consider the great tendency of cicatricial tissue after burns to undergo undue contraction, it is a matter of grave doubt whether the improvement will be permanent. Hence, he believed that the operation of Harrison is the better one, and one that is entitled to extended trial.

Dr. E. M. Moore agreed with Dr. Gouley that the greatest element of danger in the cases is the complete evacuation of the bladder. He thought the introduction of injections of borax, boric acid, etc., a measure that would prove of much service. He further stated that a case incorporated in the paper just read, in which, as an effect of a rapidly developed polyuria, twenty-seven pints of urine were withdrawn from a bladder in twenty-seven consecutive hours, was a case treated by himself. He stated further that he had obtained beneficial results from moral treatment, teaching the patient to overcome the desire to micturate until he could retain his urine for four hours at a time. Where the catheter could be tolerated, he preferred to use it only after the individual had evacuated as much urine as possible spontaneously; then introduce the instrument and withdraw the residual urine.

Dr. Gunn remarked that he had employed the method of moral treatment with benefit for at least five years.

Dr. Gouley, in closing the discussion, claimed priority for the operation of excision of the prostate, and stated that, in some instances, due credit had not been given him, although Dr. Mercier had put it on record as his operation.

Afternoon Session.

Dr. Harold C. Ernst, of Boston, made some remarks on

CULTURE EXPERIMENTS ON THE GROWTH OF THE MICROÖRGANISMS OF DISEASE.

Most of the work in this field, he stated, has been done by Rosenbach, who has demonstrated that there are several forms of microörganisms which are invisible with the use of the older methods of staining. The discovery by Koch of the method of culture by dry culture-media has enabled Rosenbach and others to cultivate and render visible many of these otherwise invisible forms. As a specimen of work which he himself had done, he exhibited cultivations from a perinephritic abscess in which two forms of micrococci were observed, one white, the other yellow (arias and albus); one of erysipelas ten days old; and one from a tumor of the leg. In the latter specimen he had found a micrococcus which differed from any that he had seen described, in that the cultivation was of a different color. To it he had given the name sepiacoccus, but did not hold to the correctness of the term, inasmuch as the color was not a pure sepia. In his cultivations, the pus from whatever source was transferred to a sterilized fluid with all the precautions possible. The culture-media which he had found best suited to all purposes was the fleisch-peptone agar-agar of the Germans. The methods of culture upon this and other media were then briefly described. He closed his remarks with a description of the difference between the comma-bacillus of cholera, as described by Koch, and that of cholera-morbus, chiefly in its behavior upon the gelatine culture-fluid, the former liquefying the gelatine to a greater depth in the same length of time than the latter.

In conclusion, he invited the members to examine some microscopic preparations of various germs in an adjoining room.

Dr. Warren remarked that the methods of Rosenbach promised us an easy and sure method of diagnosis in many obscure surgical cases. He further narrated several cases in which culture tests in the hands of Dr. Ernst had been of considerable value to him. In one instance to which Dr. Ernst had made casual reference, a tumor of the knee was incised, a small portion of the fluid or juice removed, and a cultivation of it made. The colony resulting was of a peculiar citron color, not described in the book of Rosenbach. The tumor was removed, and microscopic examination of it revealed the fact that it was an epithelioma. He did not, however, go so far as to claim that he had found the germ of that disease. He stated that he has been in the habit of late of using sterilized cotton as a dressing of all wounds, and considered it better than ordinary applications. A temperature of 150° C. had been found sufficient to sterilize several pounds of cotton in an hour.

Dr. Ernst stated that he had not intended to claim any originality for his studies, but merely to show that when carried out according to the directions given by Rosenbach, the result of such investigations proved as described in the work of that author.

Dr. N. Senn, of Milwaukee, then read a paper entitled

AN EXPERIMENTAL AND CLINICAL STUDY OF AIR EMBOLISM.

As indicated by the title, it was based both upon a thorough review of the literature of the subject and a large number of original experiments. In some instances as many as forty experiments were reported in proof or disproof of a single statement. The treatise was divided into eleven chapters, from each of which were drawn a number of practical suggestions. The titles of these respective chapters were:

I. Introduction, in which the subject is considered in a general manner as regards its application to surgery, and to some extent the causes and manner of its production. The term air embolism was defined, "The pressure of free atmosphere within the vascular system during life and in sufficient quantity to give rise to symptoms of obstruction."

II. The history of air embolism.

III. The intravenous production of air. With regard to this phenomenon, he expressed the belief that it is of very rare occurrence, and that inasmuch as nearly all cases in which air has been found in the vessels post-mortem, were cases in which death had occurred as a result of hemorrhage, the air had been aspired into the open mouths of the bleeding vessels. In cases in which no wound on vessels can be found, however, he thought it possible that the bubbles were a gaseous substance produced from decomposition of the blood, although it had not been found in sufficient quantity for the determination of its chemical constituents.

IV. Effect of the heart and respiration on the venous circulation.

V. Aspiration of air into the superior longitudinal sinus. This was considered chiefly with regard to its importance as a complication of operative procedures about the head. The author also considered the views of various writers in regard to its production. A number of experiments were reported, and from them a list of practical suggestions was adduced.

VI. The immediate cause of death after intravenous insufflation of air.

VII. Intra-arterial insufflation of air.

VIII. The clinical study of air embolism. In this section was considered the various symptoms that result from the entrance of air into the principal vessels of the body, together with the comparative fatality of each.

IX. Experiments on venous air embolism. These experiments were made for the most part upon dogs, and demonstrated, in the opinion of the author, not only the innocence of the operation of aspirating the heart, but that it is absolutely indicated as a therapeutic method in cases of the introduction of air.

X. Prophylactic treatment of air embolism. The chief of these methods are position, compression, ligature, and the aseptic tampon.

XI. The operative treatment of air embolism.

In conclusion, he submitted the following résumé:

1. The presence of adventitious air in the vascular system during life gives rise to air embolism.

2. Each air embolus constitutes a mechanical source of partial or complete obstruction to the flow of blood in the vessel in which it is located.

3. Aspiration during the inspiratory movements of the chest is the direct or exciting cause of ingress of air into a wounded vein or sinus.

4. Elevation of the head is the sole predisposing cause of the entrance of air in wounds of the superior longitudinal sinus.

5. In veins, the predisposing causes consist in

(*a*) Elevation of the part wounded; (*b*) Pathological or anatomical conditions which prevent collapse of the vein when it is wounded.

6. Insufflation of a fatal quantity of air into a vein produces death by:

(*a*) Mechanical over-distention of the right ventricle of the heart, and paralysis in the diastole; (*b*) Asphyxia from obstruction to the pulmonary circulation consequent upon embolism of the pulmonary artery.

7. Insufflation of the same quantity of air into arteries is less dangerous than when introduced into veins. When death is produced in this manner it results from:

(*a*) Acute cerebral ischæmia; (*b*) Secondary venous air embolism; (*c*) Intense collateral engorgement of the vessels of the brain and spinal cord, the manner of death being determined by the amount of air injected, and the direction in which the injection is thrown, as well as the time which has elapsed between the operation and the fatal termination.

8. Air injected into arteries is readily forced through the systemic capillaries into the venous circulation and right side of the heart by the powerful contraction of the left ventricle.

9. Air embolism of the pulmonary artery is relieved in a comparatively short time, provided the contractions of the right ventricle continue unimpaired for a sufficient length of time to force the air through the pulmonary capillaries into the general circulation.

10. The prophylactic treatment consists in proximal or double compression, or ligation, of the vein which is endangered by the operation.

11. The indirect treatment has for its objects:

(*a*) The prevention of the admission of air; (*b*) The administration by inhalation or hypodermatic injection of cardiac stimulants; (*c*) Venesection.

12. The direct or operative treatment by:

(*a*) Puncture and aspiration of the right ventricle; (*b*) Catheterization and aspiration of the right auricle, which is proposed with a view to obviate the direct cause of death by the removal of air and spumous blood, thus relieving directly the over-distention of the right ventricle, and, at the same time, to guard against a fatal embolism of the pulmonary artery.

13. The results obtained by experiments upon animals warrant the adoption of the operative treatment of air embolism in practice, as a last resort, in all cases where the indirect treatment has proved inadequate to meet the urgent indications.

In Executive Session the following surgeons were

ELECTED TO FELLOWSHIP:

J. Edwin Michael, A.M., M.D, Professor of Anatomy and Clininal Surgery in the University of Maryland; Roswell Park, M.D., Professor of Surgery in the University of Buffalo; W. H. Carmalt. M.D., Professor of Surgery, Medical Department Yale College, and Surgeon to New Haven Hospital; J. Ford Thompson, M.D., Professor of Surgery, Columbia Medical College, Washington; Theodore R. Varick, M.D., of Jersey City.

HONORARY FELLOWS:

Sir James Paget, Bart., Mr. John Eric Erichsen, Sir Joseph Lister, of London; Thomas Annandale, Regius Professor of Clinical Surgery in the University of Edinburgh; Prof. Esmarch, of Kiel; Prof. Von Langenbeck, of Berlin; Prof. Volkmann, of Halle; Prof. Czerny, of Heidelberg; Prof. Billroth, of Vienna; Prof. Nussbaum, of Munich; Prof. Verneuil, of Paris; Prof. Ollier, of Lyons.

The following were elected

OFFICERS FOR THE ENSUING YEAR:

President.—Dr. Moses Gunn, of Chicago.

Vice-Presidents.—Drs. Christopher Johnston, of Baltimore; Thomas P. Russel, of Oshkosh, Wisconsin.

Secretary.—Dr. J. R. Weist, of Richmond, Indiana.

Recorder.—Dr. J. Ewing Mears, of Philadelphia.

Treasurer.—Dr. John H. Brinton, of Philadelphia.

Member of Council.—Dr. L. McLane Tiffany, of Baltimore.

Chairman Committee of Arrangements.—Dr. J. S. Billings, of Washington.

Time and place of next meeting, Washington, D.C., on the Wednesday preceding the meeting of the American Medical Association.

MISCELLANEOUS BUSINESS.

The following resolution offered by the Council was adopted:

That names of candidates for admission must be accompanied by a statement of official positions held, writings, and the claims upon which the application is based.

Resolved, That at future meetings of the Association one hour be the limit of time allotted for the reading of a paper.

(*To be concluded.*)

MEDICAL ASSOCIATION OF GEORGIA.

Thirty-sixth Annual Meeting, held at Savannah, April 15, 16, and 17, 1885.

(Specially reported for THE MEDICAL NEWS.)

THE Thirty-sixth Annual Session of the Medical Association of Georgia was held in Savannah, April 15th, 16th, and 17th.

The Association was called to order on the morning of the 15th, at 11 o'clock, by the retiring President, Dr. A. W. Calhoun, of Atlanta.

Addresses of welcome were made by Dr. W. H. Elliott, of Savannah, and Hon. R. E. Leston, Mayor of Savannah. These were reponded to by Dr. T. W. Holmes, of Rome, on behalf of the Association.

The retiring President then introduced the President-elect, DR. EUGENE FOSTER, of Augusta, who delivered

THE ANNUAL ADDRESS,

the subject of which was

THE EXTENT, CAUSES, AND PREVENTION OF PREMATURE DEATH.

The speaker claimed that the inherent potential longevity of man was from eighty to one hundred

years, and that every human being had an inborn right to this period of life.

In seeking causes of premature death, he cited the fact of the 1146 diseases—general, local, etc.—which affect mankind, 27 caused fully 75 per cent. of the total mortality in 1870, and he contended that every one of these diseases is wholly preventable by application of definite and well-known hygienic measures.

He contended that there are mainly four essentials to procurement of health and longevity: 1. purity of atmosphere and water. 2. Wholesome food in quantity and quality. 3. The inheritance of a healthful constitution. 4. Freedom from contagious and infectious diseases. Man, in his individual efforts, has but little power over either of these essentials of life, with the exception of food. The only power which can secure the other three to the individual is the State. Minute and elaborate presentations of the filthiness of all cities, and the need of thorough sewerage and drainage, were made, and contained food for reflection.

The importance of, and the right to inheritance of a healthful constitution, were fully presented, and the growing evil of marriage among persons diseased with consumption, scrofula, syphilis, epilepsy, chorea, insanity, and alcoholism, was severly condemned.

Upon questions of freedom from contagious and infectious diseases, the speaker pointed out the enormous mortality from these diseases, and criticised man's stupidity in permitting cases of contagious and infectious diseases to scatter abroad the seeds of their infection when he is all-powerful to prevent the evil. He cited the fact that five preventable diseases—*i. e.*, smallpox, measles, scarlet fever, whooping-cough, diphtheria—kill 50,000 Americans every year, and yet the authorities, National and State, are indifferent to these causes of death, and are only fearful of cholera and yellow fever. He showed that the mortality from these latter two diseases was insignificant in comparison to that from other preventable diseases over which man has absolute control, and yet does nothing to prevent. He urged education of the public in sanitation as the remedy which it was the duty of the profession to promote.

THE COMMITTEES ON EXPERT TESTIMONY, AND ANATOMICAL MATERIAL

reported that bills had been presented to the Legislature, and that the legislative committees to whom they were referred reported favorably upon them, and they had every reason to believe that the bills as prepared would become laws at the approaching session of the Legislature.

These bills, as proposed, provide for proper compensation for expert witnesses, and material for dissecting purposes. Both bills have been very carefully drawn, and cover the grounds well.

DR. HOWARD J. WILLIAMS, of Macon, delivered an excellent address on

THE IMPORTANCE OF GOOD NURSING, AND THE TRAINING OF NURSES.

He advocated the establishment of schools for nurses in every city, supported by local medical boards, giving instructions in hygienic and the simpler forms of practice. He regarded women, by their nature, especially adapted to this work.

The Association abolished the present form of

PUBLICATION OF THEIR TRANSACTIONS,

and will hereafter publish them in journal form, selecting the *Atlanta Medical and Surgical Journal* as the journal of the Association.

A large number of voluntary papers were read. Among the number we present the titles of a few of the most interesting: *The best Nutriment for the Bony System*, by Dr. R. J. Nunn, of Savannah; *A New System of Treating Diphtheria*, by Dr. R. J. Nunn; *Glaucoma following the Excessive Use of Atropin*, by Dr. J. M. Hull, of Augusta; *A Case of Double Uterus, with Fœtus in Each*, by Dr. E. W. Lane.

DR. A. W. CALHOUN, of Atlanta, read a paper on

TRACHOMATOUS GROWTHS IN THE LARXNX IN CHILDREN,

removed under the influence of a twelve per cent. solution of hydrochlorate of cocaine. He stated that these growths are extremely rare, and that until the use of cocaine was suggested it was very difficult to remove them, but under the influence of a twelve per cent. solution he had little trouble in removing them.

The following were elected

OFFICERS FOR THE ENSUING YEAR:

President.—R. J. Nunn, M.D., of Savannah.

Vice-Presidents.—L. B. Alexander, M.D., of Forsyth, and T. F. Walker, M.D., of Cochran.

Secretary.—James D. Cray, M.D., of Atlanta.

Treasurer.—E. C. Goodrich, M.D., of Augusta.

Orator.—C. W. Hickman, M.D., of Augusta.

Augusta was selected as the next *place of meeting*.

LOUISIANA STATE MEDICAL SOCIETY.

Annual Meeting, held at New Orleans, April 21, 22, 23, 1885.

(Specially reported for THE MEDICAL NEWS.)

APRIL 21ST.—FIRST DAY.

MORNING SESSION.

THE Society was called to order at 12.20 P.M., by the PRESIDENT, DR. R. H. DAY, M.D., of Baton Rouge, and about seventy-five members answered to their names.

DR. G. A. LAWRASON, as President of the Orleans Parish Medical Society and in behalf of that Society, tendered the Society a cordial welcome to the city and wished the members a profitable and successful session.

DR. S. E. CHAILLÉ as Chairman of

THE COMMITTEE ON STATE MEDICINE,

presented his report. Nothing of great moment had been done by his Committee since the last meeting. The coming Legislature was composed of the same members as the last, and the Society's advocate and friend therein had expressed it as his opinion that any further endeavors before that particular body of men would be entirely useless.

At the meeting in Baton Rouge last May, some ten propositions had been presented to the Society. Of these five had been laid before the Legislature for action, viz.: 1st. A proposition for the establishment of a veritable State Board of Health. 2d. One protecting confidential communications to physicians. 3d. One

providing for compensation for expert testimony. 4th. One requiring hygiene and physiology to be taught in the public schools. 5th. An act amending the act regulating the practice of medicine. Of these five only one was passed. No. 1 was withdrawn as premature. No. 2 was passed, but the Governor failed to sign it. No. 4 was defeated by the negroes and members for Orleans. No. 5 was defeated.

Notwithstanding this bad showing Dr. Chaillé moved: That the Society re-endorse the report of 1884 of the Committee on State Medicine, and recommend the adoption of its proposition by the Legislature. Adopted.

THE RECORDING SECRETARY'S REPORT.

Dr. P. B. McCutcheon reported that 400 copies of the Transactions for 1884 had been distributed to various organizations and individuals, and that 125 were still on hand. He had received quite a number of valuable reports and monographs as additions to the Library of the Society.

Evening Session.

Dr. R. H. Day delivered the

PRESIDENT'S ADDRESS.

Its title was *The Mission and Methods of Medicine.* He referred to medicine as an art whose date of origin was lost in mystery, though perhaps coeval with the needs of mankind for its offices. However crude the practice of medicine by primeval man, it is undoubtedly a fact that they were strict observers of the main laws of hygiene—a practice which contributed to antediluvian longevity. A man to be a physician must be prepared to spend his life in earnest endeavor and striving after the hidden secrets of nature. It is the uneducated, unscientific, as well as irregular physician who brings discredit on medicine and lessens the influence of the profession upon legislation which would be calculated to be of benefit to humanity.

At the conclusion of this address, Mr. W. H. Goodale delivered the annual oration upon *The Blameless Physician.*

April 22d.—Second Day.

Morning Session.

THE TREASURER'S REPORT

showed the Society to be on a very good financial basis. Receipts, $773.75; disbursements, $240.70; balance on hand, $533.05, which will be materially increased by receipts at this meeting.

Dr. J. J. Newton read a paper on

HEMORRHAGIC MALARIAL FEVER,

which contained a fairly complete résumé of what had been written on the subject.

Dr. Jos. Jones spoke of a parasite having been found in cases of hemorrhagic malarial fever and the likelihood that it bore some relation as that of cause and effect. It is well known that rice is a great habitat of fungi and it may be that the special cause of this form of malaria may yet be determined. In this connection he stated it as his opinion that the cultivation of this cereal will yet work a great injury to Louisiana by its effects upon the health of its inhabitants.

Dr. Newton asked if the cases presumably caused by this parasite were new in type.

Dr. Jones thought they were.

Dr. Pugh asked if it was proper to give quinine in hæmaturia.

Dr. Lyons believed that the idea that quinine is a sheet-anchor in this disorder is a mistake. The complications resulting from large doses of quinine, such as profound prostration and nausea, were elements of great danger. Some physicians have abandoned its use entirely. Though he had never treated a case without some quinine, yet if called upon to choose between heroic doses and the total non-use of the drug he would choose the latter.

Dr. Langworthy thought small doses did good, but he placed much faith in acetate of potassium.

Dr. Newton thought quinine useful until structural changes had occurred. It should then be discontinued.

Dr. Day stated that several cases in his Parish treated with large doses had died. He related a case of malarial hæmaturia in which there was no fever, but rather a subnormal temperature. He had used diuretics such as nitre and copaiba, and after the attack small doses of quinine.

THE REPORT OF THE CORRESPONDING SECRETARY

showed a total of 1043 physicians in Louisiana. Of these, 764 were regular, 219 irregular, and 60 were unknown.

On motion, a committee of five, consisting of Drs. Allen, Lyon, Dupre, Chaillé, and Langworthy, was appointed to consider the recommendations contained in the President's Annual Address.

Evening Session.

Dr. L. L. Holcomb presented a paper on *The Neutral or Alkaline Saturation Plan of Treatment in Malarial Irritation and Idiopathic Fevers;* and Dr. Ashton, of Shreveport, one on *A Rational Common-sense View of Therapeutics.*

A. G. Friedrichs, M.D., D.D.S., of New Orleans, read an instructive paper on

THE RELATIONSHIP OF THE TEETH TO THE GENERAL SYSTEM.

The importance of the teeth in their influence upon the general system, he urged, is too often overlooked. Physicians are apt to overlook the fact that they have nerves and accompanying ganglia; that they are in close relation to the antra, and through them to the nerve fossæ, the tonsils and Eustachian tubes, and the external and internal ear, the orbit, and spheno-maxillary fossæ. Through the trigeminal nerve how easily may neuralgia be caused by reflex action from a diseased tooth. A gentleman came to his office with an acute neuralgic pain extending from one orbit to the other. No form of treatment of a month's duration had done any good. A semi-decayed dead posterior superior bicuspid, with no connection between the cavity of decay and the pulp cavity, was found. Communication was made, and instant relief followed. Another patient having neuralgic eye trouble, with conjunctivitis, intolerance of light, and lachrymation, had a tooth for its cause. Dr. Tendian relates a case of insanity from a diseased tooth. Epilepsy, paralysis, general or partial, have frequently followed from bad teeth. Dental abscesses have simulated scrofula, and

caused caries and pyæmia. He pointed out that it is important to remove thoroughly the concretions which are deposited upon the teeth in febrile affections, else decay rapidly ensues.

(To be concluded.)

NEW YORK SURGICAL SOCIETY.

Stated Meeting, April 14, 1885.

THE VICE-PRESIDENT, CHARLES MCBURNEY, M.D., IN THE CHAIR.

DR. GERSTER presented a patient upon whom he performed

MIKULICZ'S OPERATION

on the 17th of January, 1885, and who was able to walk with only a very slight limp. The man was a professional nurse, forty-eight years of age, who in May, 1881, had an attack of erysipelas in the region of the heel and foot for which he was treated in Bellevue Hospital. A large abscess formed, the calcaneum became involved, and superficial necrosis followed for which the bone was scraped out and he was finally dismissed from the hospital, but not improved.

In 1883, he came under Dr. Gerster's care in the German Hospital with epithelioma in the situation of the ulcer upon the heel about the size of a trade dollar which had never healed, and the character of the new growth had been determined by a number of microscopical examinations. It was sessile and firmly attached to the calcaneum. Dr. Gerster removed it, and at the same time exsected the entire tuberosity of the calcaneum, thus hoping to gain sufficient space for the use of a skin flap formed from the planta pedis to cover the defect with, but succeeded in covering only about one-half of it. Necrosis of this flap followed, due to the compressory dressings used, and to the atheromatous condition of the arteries. The remaining defect was cicatrized over completely within the next three or four months, and ultimately a scar remained, extending from the planta pedis up to the insertion of the tendo Achillis with the foot in the position of pes equinus. The cicatrix frequently ulcerated, especially in cold weather, and finally the ulceration became almost permanent, so that the patient pleaded for an amputation. Dr. Gerster proposed, however, instead of amputating the leg, to perform Mikulicz's operation after having taken into consideration the advisability of a plastic operation according to the usual method of cutting out a flap from the other limb and transposing it to the ulcerated surface, holding the limbs by means of plaster splints in such apposition as to permit the flap to come in contact with the denuded surface, and afterward separating the pedicle of the flap when the circulation in its new attachment had become sufficient to maintain nutrition. In view of the man's atheromatous arteries necrosis of a flap raised for such a plastic operation was almost certain, wherefore, partial exsection of the tarsus was decided upon. The principle of the operation is as follows: in cases in which the heel is denuded of its integument Mikulicz thought that the length of the limb could be preserved and made available for motion without the assistance of complicating apparatus if the calcaneum and astragalus were removed and the anterior portion of the foot saved and brought into contact with the tibia and fibula. The first incision is made almost in the same manner as for Pirogoff's and Symes's operation, cutting down to the bone, beginning a little anterior and below the malleolus of one side, carrying it across the planta pedis to the corresponding point upon the other side; the incision is then extended up to the centre of the malleolus and carried round the leg behind, corresponding to the insertion of the tendo Achillis. Through this latter incision the posterior aspect of the ankle-joint is exposed and the same is entered and dissected up until the head of the astragalus is denuded, and then the astragalus and calcaneum are severed out of their last connections in Chopart's joint.

When this has been done the remnant of the foot, containing the scaphoid, the cuboid, the cuneiform bones, and the metacarpals, and the toes, is hanging by a flap, situated on the anterior portion of the limb, the nutrition of which is sustained through the dorsalis pedis artery.

The tibia and fibula are then sawn through the malleoli, and also the cuboid and scaphoid bones are separated from the soft parts sufficiently to permit the saw to be carried through them on a vertical plane. In this way are left two rather extensive bony surfaces, which are brought together and rendered immobile by driving a nail slantingly through the scaphoid into the spongy portion of the tibial epiphysis. Finally the cutaneous edges are united by a continuous catgut suture, and the limb swathed in an antiseptic dressing.

The patient presented was the second one upon whom he had performed the operation, and the result was the better of the two. As far as his knowledge extended, these two operations were the eighth and ninth which had been performed. In the other case the final result would be satisfactory. In that case the limb was lengthened half an inch, so that the patient would be obliged to have an elevated shoe upon the opposite side. In the case of the patient presented, Dr. Gerster removed a trifle too much of the bone, and produced a shortening of one-fourth of an inch, which was so slight a matter that the patient was able to walk with scarcely a perceptible limp. On account of the free removal of the scaphoid and cuboid bones, he came very near the joint between the scaphoid and the cuneiform bones; in fact, so near that the ligaments fastening that joint were detached, and the mobility present was due to mobility at that articulation, but this was rather an advantage than otherwise.

When the Esmarch bandage was removed, the blood-vessels did not bleed at all, and he was somewhat startled at the thought of the possibility of the atheromatous condition of the vessels, and the constriction to which they had been subjected might seriously interfere with the circulation, but when the foot was brought into its normal position free hemorrhage set in, so free that it became necessary to apply nearly twenty-five ligatures to arrest the hemorrhage. After this was done the bones were brought into apposition, and, as previously mentioned, a long nail was driven through the remnant of the scaphoid bone into the tibia, which gave firm apposition of the sawn surfaces. An antiseptic dressing was applied, and a correct healing of the

wound took place, with primary union of the sawn surfaces.

By February 2d, the nail could be withdrawn; its vicinity never showed any evidence of reaction. The track of the nail secreted a little sero-purulent matter for a few days after its removal, and then closed up. Very soon afterward the patient was ordered to walk about. Mikulicz said that he was obliged to perform tenotomy of the short flexor to allow hyperextension of the toes, but in this case Dr. Gerster had not found it necessary, and by the aid of a shoe, in which the heel was somewhat elevated, the patient was able to walk very comfortably, and with a good deal of elasticity.

In reply to a question, Dr. Gerster said the line of section extended vertically through about the middle of the scaphoid, and through the posterior portion of the cuboid.

CORRESPONDENCE.

THE NINETEENTH CONGRESS OF GERMAN SURGEONS.

BERLIN, April 11, 1885.

MORE than four hundred prominent German surgeons gathered in Berlin to attend the sessions of the German Surgical Congress, which were held from April 8th to 11th, under the presidency of the Nestor of German surgeons, Baron Von Langenbeck. There were also present all the leading physicians of Berlin, among whom may be mentioned Bardeleben, Rose, Gurlt, Hirschberg, and Fränkel. Many professors and practitioners from the provinces also attended, among whom were Volkmann, of Halle, Esmarch, of Kiel, and König, of Göttingen. Numerous representatives from foreign countries were also present—Mikulicz, of Krakow; Winiwarter, of Liege; Ranke, of Groningen, Holland; Albrecht, of Brussels; and Haberen, of Buda-Pesth. The absence of Parisian surgeons was noticeable, not one being present.

Previous to its formal opening, Sir Joseph Lister and Sir James Paget were elected honorary members of the Congress, and a complementary telegram informing them of the fact was forwarded.

PROF. VOLKMANN, of Halle, opened the Congress with an address on the *Surgical Consideration of Tuberculosis*. To Robert Koch he assigned the credit of first discovering the real cause of tuberculosis—the tubercle bacillus—and called attention to the fact that the so-called "consumption" of the lungs may attack almost any organ whatever, and that the surgeon may discover the existence of tuberculosis in the organism, apart and distinct from its presence in the lungs, and as such it is to be considered more as a surgical than as a general physical disorder, and surgeons, therefore, must consider remedial agencies, and duly observe their effect. Volkmann arranged his observations under forty-eight heads, of which the most important may here be stated.

The tuberculous character of a disease is not to be doubted when examination gives positive proof of the presence of the tubercle bacillus, and when anatomical examination confirms the characteristic structural appearance of tubercular tissue.

The diffusion of tuberculosis follows in a marked degree (*a*) by means of the increase of the original infection deposit, (*b*) through the entrance of tubercular virus (bacilli) from the original infection mass into the lymph canals. This common occurrence does not ordinarily conduce to the generalization of the disease, inasmuch as the lymphatics not only impede its progress but plainly, in many cases, render the disease harmless. The importance of the lymphatic glands as a protective apparatus and filter, in local infectious processes, has not been sufficiently appreciated. General tuberculosis only is evident when the gland infection becomes so far extended as to invade the ultimate lymphatics which lie between the blood current and the diseased tissue, or when the thoracic duct itself becomes the seat of infection.

(*c*) Through the introduction of the tubercular poison into the inner wall of a serous sac through the extension of a neighboring tubercular mass, or through the introduction of bacilli-containing pus, etc.

(*d*) In the same manner, through the entrance of the tubercular poison into the various cavities and canals covered with mucous membrane, in which it may become stagnant, or from which it may be removed only with great difficulty.

(*e*) Through the entrance of the poison from an adjoining collection of tubercular material into a non-thrombotic venous trunk, or into a lymph channel communicating directly with the blood current, and as a result of which acute general miliary tuberculosis results.

The discussion concerning the identity of tuberculosis and scrofulosis is not yet determined. By *tuberculosis* is generally meant a local manifestation of the disease, while by scrofulosis a general and constitutional vice of nutrition, a special diathesis or heredity is indicated.

Discussion of Professor Volkmann's paper was deferred until the following day.

PROFESSOR BRAUN, of Jena, then followed with a paper upon *Intestinal Invagination*, and its operative treatment. The Congress expressed the opinion that, in future, cases of intestinal invagination should be committed to the surgical clinic, to which, up to the present time, resort has only been had in hopeless cases.

At the second session, held on April 9th, DR. FEHLEISEN, First Assistant in the Berlin Surgical Clinic, read a paper upon the *High Operation for Diseases of the Bladder*. PROFESSOR MAAS, of Würtzburg, recommended as a substitute the median lithotomy incision on account of its greater freedom from danger. Discussion concerning both these operations for lithotomy will be held at the meeting of the Congress to be held next year.

PROFESSOR KÖNIG, of Göttingen, next described a new method of *Resection of the Joints* of the foot in articular tuberculosis, which already in 32 cases has yielded favorable results. VOLKMANN, of Halle, stated that he still preferred the method of Langenbeck, but cautioned against the too frequent performance of the operation, which, though giving brilliant results so far as the usefulness of the foot is concerned, still, in children, is not necessary and in persons of advanced age may be dangerous. PROFESSOR LANGENBECK reported that his experience with operations for resection in tubercular disease of the joints of the feet and hands has been unfavorable, and expressed astonishment at the favorable results obtained by Professor König.

DR. GAERTNER, Marine Physician, next read a paper upon *The Disinfectant Properties of Carbolic Acid Solutions*. To Professor Koch he gave credit for first accurately demonstrating the proportion of carbolic acid required in solution to insure its germicide effect. Koch's experiments he has repeated and like him finds a three per cent. solution destructive to all known forms of bacilli.

In the Afternoon Session Professor Volkmann's paper upon tuberculosis was brought up for discussion.

On the third day of the Congress, April 10th, PROFESSOR LANGENBECK exhibited a young man upon whom he had operated two years previously for *Spina Bifida*, by injection of iodine into the sac, with the result of entire cure. DR. BERGMAN also brought before the Congress a small girl similarly operated upon with like good result.

Discussion was next held upon the *Treatment of Cleft Palate*. As pertaining to the subject of oral surgery, two cases of recovery from fracture of the lower jaw were exhibited. A case of ankylosis of the lower jaw (cured by resection of the joint) was exhibited by Professor Ranke, of Holland.

The most important discussion of the day, however, was that upon *Resection of the Stomach*. DR. RYDIGIER produced two cases lately operated upon by himself. In one case not only was a carcinoma of the stomach removed, but also a large section of apparently sound tissue, which, upon close examination, was found to contain foci of disease. Dr. Rydigier holds that where, after an operation, the disease returns too little tissue has been resected. No danger of removing too much tissue need be apprehended. He also holds that women endure the operation for resection of the stomach much better than do men. Of five cases operated on by him, three were women and two men. The women are all alive, while both men are dead.

DR. VON HACKER, of Berlin, then referred to Prof. Billroth's operations for resection of the stomach, of which there is a total of 18 operations, 14 of which were for carcinoma. Of these 14, 8 died from the effects of the operation. Of the 6 remaining cases the disease has returned in 5 cases, leaving 1 in which favorable results have been obtained. In view of these statistics, Dr. Von Hacker holds that this operation for cancer of the stomach offers no prospect of favorable results, and advises that in severe cases the operation be avoided, and the patient be left to the natural course of the disease.

DR. BESSEL, of Berlin, in the afternoon session, spoke concerning *Joint Extirpation in Clubfoot*, and expressed the opinion that extirpation of the joint is to be avoided, and, without doubt, limited to cases in which it is specially indicated, and is not to be generalized.

DR. KUMMEL, of Hamburg, then reported the experiments made at Hamburg upon the best methods of *Disinfection during Operations*. As the best means of disinfecting instruments, first of all it is recommended to wash them with ether and wipe thoroughly with wadding, or to cleanse them with soap and warm water, and then to lay them in a three per cent. solution of carbolic acid. Sponges also may be cleansed in this manner, if they are allowed to soak in the carbolic solution. For a thorough cleansing of the hands, a solution of corrosive sublimate, in proportion of 1 to 1000, is insufficient. For this purpose a two to five per cent. solution of carbolic acid seems best adapted, together with washing in chlorine water.

Efforts to purify the air of the operating room have been ineffectual. Simple washing of the floor and walls with soap and water is useless, and, indeed, the use of water may be the origin of fungi, and even steam has no destructive effect upon these fungi. The interesting statement was made, in conclusion, that examination of the expired air of diseased patients revealed the presence of no bacteria.

At the close of the session it was resolved to renew the discussion of Prof. Volkmann's paper upon the surgical aspects of tuberculosis.

At the final session, on April 11th, PROF. ESMARCH, of Kiel, exhibited several *New Apparatus Adapted to Military Surgery*, among which were a new elastic bandage, made of nickel-plated, highly tempered, wrought steel, and a modification of Volkmann's apparatus for shot or otherwise severely wounded limbs.

PROF. ESMARCH then spoke upon *The Transplantation of Large Skin Flaps upon Fresh Wounds*. In order for these to heal quickly, whether they be obtained from freshly amputated limbs or other source, all fat must be thoroughly removed. This method of treatment is especially serviceable in war, on account of the abundance of material.

PROF. ESMARCH also spoke of the *Results of Operations in Complicated Cases of Harelip*, in which, as statistics show, a great proportion of cases operated on at a tender age give, after a longer or shorter time, fatal results. Experience shows the operation to have no settled value. Statistics must be published before the question can be intelligently decided.

PROF. ALBRECHT, of Brussels, next exhibited a series of interesting curiosities, among which were specimens illustrative of the significance of the diverticula of the pharynx, which though met in other suckling animals, in man are rare.

DR. LAUENSTEIN, of Hamburg, returned to the subject of *Resection of the Stomach*, and referred to cases operated upon by himself, and discussed the *technique* of the operation.

At the close of the Congress, Prof. Volkmann earnestly requested Prof. Von Langenbeck, who, on account of ill-health, no longer wished to preside over the meetings of the Congress, to withdraw his resignation. The whole Congress united in this request, and the distinguished surgeon finally consented to yield to the wishes of his associates.

TAIT'S OPERATION.

To the Editor of THE MEDICAL NEWS.

SIR: In your issue of February 21st there is an editorial article on the use and abuse of Battey's and Tait's operations, upon which I will ask your courtesy to enable me to make one or two remarks. Two points I must first of all speak briefly of, because they are points upon which I have now entered my protest time without end, and apparently with very little effect, for I find that every succeeding writer falls into exactly the same error, but I propose to go on drawing attention to my views until, I trust, I may some day see them accepted.

In the first place, I protest against names of persons

being attached to operations, it is such a slip-shod and easy method of description that it is certain to lead to mistakes. In the second place, you say that in the operation which you allude to under my own name, "the conditions which are alleged to require it are not so plain, and the diagnosis is more difficult," I presume, than in the operation which you describe as Battey's. Here, again, the use of these two names is the cause of great confusion. I take it for granted, that you mean, by Battey's operation, "the removal of the ovaries for the purpose of bringing about the menopause under conditions where the disease appears to be due to, or largely dependent upon, the recurrence of menstruation." If this is what you really mean, it must be perfectly evident to any one that such an operation must be always largely speculative, and that really no kind of diagnosis can be made.

If by Tait's operation you mean the removal of diseased tubes, then the diagnosis is perfectly simple and easy; nothing could be more so. It is perfectly true that it is not always easy to diagnose and differentiate hydrosalpinx, pyosalpinx, hæmatosalpinx, and tubal pregnancy. This I have admitted over and over again; but the diagnosis of diseased tubes requiring removal is a perfectly simple and easy matter, in which I am perfectly certain now my mistakes cannot amount to more than five or six per cent.

Perfectly exact diagnosis is not possible in any realm of surgery—even in tumors of the breast, for in many cases it is absolutely impossible to say what the exact nature of the tumor is until it is in the operator's hands, and a section has been made of it. Just so with diseased Fallopian tubes.

The third point to which I want to draw your attention is that in which you say that the operation which you are kind enough to describe as my operation finds no favor with some of the best London authorities—Sir Spencer Wells and Dr. Matthews Duncan. In this you are absolutely mistaken. Dr. Duncan has not in a single instance that you can point to expressed disapproval of the operation for removal of diseased Fallopian tubes. At least, from a large acquaintance with his writings and with his opinions from personal conversations, I have not gathered any such impression; in fact, my belief is absolutely to the contrary. With Sir Spencer Wells's views I am now not much concerned, but so far as I know them on this point, he does not object to the operation. He says the cases do not exist, or, if they do, they all go to Birmingham. I have published details of four cases, and I am in possession of the facts of many others, which have passed through Sir Spencer's own hands, and which he has failed to recognize. He will not do as some of his London brethren do, and as many of your countrymen do, come to Birmingham and be taught, so he must go on in his wilful ignorance. In this instance, happily, Sir Spencer Wells's ignorance will not stop surgical progress as it has done in the past.

But the last piece of evidence concerning Sir Spencer Wells which has come before me, on the authority of the Editor of the *British Journal of Gynecology*, is certainly not at all in favor of your statement of Sir Spencer Wells's opinions. In fact, it seems to me that Sir Spencer Wells, from being an obstructive, has suddenly turned round to be one of the most advanced promoters of our new form of abdominal surgery—in fact, he has advanced to a degree which I for one certainly shall hesitate for a long time to follow. He has actually, on the authority given, removed perfectly healthy ovaries in a woman who was the subject of recurring puerperal mania, in order to prevent her having more children. This may be, or it may not be, a justifiable proceeding; this is not the point under discussion; but it is a proceeding which I venture to say has not yet been advocated by any British surgeon, and it is one upon which the strongest possible opinions may be expressed in an adverse direction. Certainly, after having performed such an operation as this, Sir Spencer Wells's mouth must be forever closed against anybody else.

I am, sir,

Yours very truly,

LAWSON TAIT.

7 The Crescent, Birmingham.
April 11, 1885.

NEWS ITEMS.

MONTREAL.

(*From our Special Correspondent.*)

The Smallpox Epidemic.—For the last five years this city has been quite free from smallpox, and the authorities began to think that we would never again experience an epidemic, so the Civic Smallpox Hospital was closed and vaccination was, except among the well-to-do classes, almost altogether neglected. The public vaccinators had but little to do; in fact, up to a week or two ago the offices of Public Vaccinators were vacant. Some few weeks ago (four) two railway employés came from Chicago suffering from smallpox. The city having no means of isolation ready, one case went to a private house, and the other to the Hôtel Dieu Hospital. From these two cases the disease has spread in every direction; already several deaths (five) have occurred, and the reopened Civic Smallpox Hospital contains twenty cases, the majority of them traceable to the case admitted into the Hôtel Dieu. The Hôtel Dieu, in consequence of the number occurring there, has been closed, and is now undergoing thorough disinfection.

The Board of Health, under the active management of the new Chairman, is doing everything in its power to stamp out the disease, and where patients will not go to hospital (there being no law to compel them), guardians are placed before the house containing the smallpox patients, to warn all people against entering, and the whole neighborhood is vaccinated. Physicians are required to report all cases occurring in their practice, and every case is then investigated by the Board of Health, and proper disinfection and isolation enforced. It is hoped that the disease will by these means be soon under control.

New Act Respecting Lunatic Asylums.—As a result of the discussion provoked by Dr. Hack Tuke's report on the lunatic asylums of the Province of Quebec, the provincial government has introduced a bill which is an attempt to remedy some of the evils complained of. The only important change is the provision for the appointment of two medical officers in addition to the medical superintendent, all to be paid by the government. These officers are not *required* to

reside in the asylum. The medical superintendent's residence is not specified. The house physician must reside *near*, but not in the asylum, and the assistant house physician is to reside "in the asylum itself or its immediate neighborhood. The house physician and his assistant are required to devote their whole time to the service of the patients. The proprietors of the asylums and their subordinates are bound to carry out the orders of the house physician or his assistant (not as heretofore, to act under the orders of their masters, the proprietors), they may also require the proprietors to dismiss keepers, nurses, and guardians, for incompetence and insubordination.

These changes will, no doubt, prove of great benefit, provided the proper medical officers are obtained, men having some more knowledge of the treatment of the insane than is obtained by a short college course, and large political influence. So many internal reforms are needed that it will require determined men to carry them out, seeing that it will be to the advantage of the proprietors to place as many obstacles in the way as possible. What is needed is the abolishing entirely of the iniquitous *farming* system, but this reform the government apparently has not the courage to propose.

THE UNITED STATES TO BE REPRESENTED AT THE INTERNATIONAL CHOLERA CONFERENCE.—The President has detailed Dr. George M. Sternberg, U. S. A., to attend, as the delegate from the United States, the International Cholera Conference which convenes in Rome on May 15th. Dr. Sternberg sailed for Europe on Wednesday last.

CHOLERA IN CALCUTTA.—The Surgeon-General of the Marine-Hospital Service is informed that cholera is prevailing in Calcutta to an alarming extent.

VOLUNTEER SURGEONS FOR RUSSIANS.—Drs. J. A. Post, and George E. Ranney, of Lansing, Michigan, according to the Lansing *Republican*, have forwarded through the medium of the Secretary of State a communication to the Russian Minister at Washington, tendering the services of themselves and a corps of twenty-three experienced Michigan surgeons for the field, in case of war between England and Russia.

INTERNATIONAL CONGRESS OF HYDROLOGY AND CLIMATOLOGY OF BIARRITZ.—The first International Congress of Hydrology and Climatology of Biarritz will open at Biarritz, October 1, 1886. The French Minister of Commerce is the honorary, and Dr. Durand Fardel the acting, president.

The sessions of the Congress will last eight days, after which excursions will be made to the different thermal and principal sanitary stations of the Pyrenees.

MULTIPLE PREGNANCY.—An account is given in *L'Echo d'Oran*, of February 14, 1885, of an Arab woman who gave birth at one confinement to five children, three of whom are still alive. The report seems to be well authenticated.—*Le Progrès Medical*, March 14, 1885.

THE COLLEGE OF PHYSICIANS AND SURGEONS OF QUEBEC will require, previous to admission to the study of medicine for the session of 1885–1886, a preliminary examination in Latin, French, English, Belles-Lettres, History, Geography, Arithmetic, Algebra, and Geometry, all of which are obligatory. The three following subjects are elective: Greek, Physics, and Philosophy.

NOTES AND QUERIES.

CORRIGENDUM.

DISINFECTANTS.

IN the paper on Moist Heat, published in the issue of THE MEDICAL NEWS of March 14, there has been a transposition of the figures, in brackets, on page 285, representing the degrees of the Fahrenheit corresponding with the degrees of the Centigrade scale.

In the paper No. IX, *The Disinfecting and Antiseptic Powder* recommended on page 425 is withdrawn. This powder was introduced by the Chairman of the Committee, after the paper had been submitted to the scrutiny of the entire Committee, on his own responsibility, and in the belief that a disinfectant in this form would prove useful. There are practical objections to the formula as given, but when circumstances permit some additional experiments, another will be substituted for it.

On page 425, second column, near bottom, after the directions, "one fluidounce of this standard solution to the gallon of water will make a suitable solution for the disinfection of clothing," refer to the following foot-note: Decolorize the solution before using by adding to it a little chloride of lime or Labarraque's solution.

On page 426, second column, twenty-sixth line, after word "water," refer to foot-note as follows: Decolorize by adding a little chloride of lime or Labarraque's solution.

After this reference the text should read: The walls and ceiling, if plastered, should be brushed over with this solution, after which they *should* be whitewashed with a lime-wash.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM APRIL 21 TO APRIL 27, 1885.

Lieutenant-Colonel JOS. R. SMITH. *Surgeon*, Major JNO. S. BILLINGS, *Surgeon*, Major HENRY MCELDENY, *Surgeon*.—Detailed to represent the Medical Department of the Army at the annual meeting of the American Medical Association, to be held at New Orleans, La, April 28, 1885.—*S. O. 91, A. G. O.*, April 21, 1885.

CRAMPTON, L. W., *Captain and Assistant Surgeon*.—Assigned to duty as Post Surgeon, Fort Bridger, Wyoming Territory.—*S. O. 33, Department of the Platte*, April 22, 1885.

BORDEN, WILLIAM C., *First Lieutenant and Assistant Surgeon*.—Ordered for duty at Fort Douglas, Utah Territory.—*S. O. 33, Department of the Platte*, April 22, 1885.

ROBERTSON, R. L., *First Lieutenant and Assistant Surgeon*.—Granted leave of absence for one month.—*S. O. 43, Department of Texas*, April 16, 1885.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE WEEK ENDING APRIL 25, 1885.

SAWTELLE, H. W., *Surgeon*.—When relieved, to proceed to Detroit, Mich., and assume charge of the Service, April 23, 1885.

URQUHART, F. M., *Passed Assistant Surgeon*.—To assume charge of Cape Charles Quarantine Station, April 23, 1885.

WILLIAMS, L. L., *Assistant Surgeon*.—When relieved, to proceed to Norfolk, Va., for temporary duty, April 23, 1885.

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

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THE MEDICAL NEWS.

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THE ADDRESS IN OBSTETRICS.

A BRIEF REVIEW OF THE GROWTH OF MCDOWELL'S OPERATION DONE AT DANVILLE, KENTUCKY, IN 1809; ITS PRESENT STATUS.

Delivered Wednesday, April 29, 1885.

BY R. S. SUTTON, M.D., LL.D.,

OF PITTSBURG.

IN the bleak cold of a December day, in 1809, a woman riding on horseback, arrived in Danville, Kentucky. She had taken farewell, perhaps forever, of relatives and friends, and had just completed a journey of sixty miles that she might be near a surgeon, who had promised to open her abdomen, and attempt to remove the large ovarian cyst it contained. She was to be the subject of an experiment—an experiment at the hands of a surgeon living on the borders of civilization—an experiment which would involve her life, and to which she must submit without the blessing of chloroform or ether. This woman possessed of marvellous courage, was Mrs. Crawford, McDowell's first patient in ovariotomy, and the first patient upon whom the operation was ever deliberately undertaken. She recovered and lived to the advanced age of seventy-nine years, a period of thirty years beyond the operation.

The conditions surrounding, and forming part of this operation, are worthy of more than a passing notice. At the present time, they are declared by the ablest operators to be of more than accidental importance.

In the light of all recent advances concerning the environs of an ovariotomy patient, I ask you to listen thoughtfully, and inquire of yourselves: Have modern operators had better environment than McDowell? Is their quarantine better than his was? Whether accident, or necessity, or the simplicity of border life, provided these conditions so favorable to recovery, your orator will not inquire, but hopes to show that McDowell did operate under conditions as favorable as does Dr. Keith or Mr. Lawson Tait.

1st. The patient was refused operation in her own home.

2d. She was operated upon in Dr. McDowell's own house.

3d. History mentions but one assistant present at the operation.

4th. The patient had never been tapped.

5th. We may safely infer that the room in which the operation was performed, contained, at this early date in Kentucky, no superabundance of furniture or upholstery.

6th. That the room was ventilated by an open fireplace is more than probable.

7th. The atmosphere was that of a healthy border town.

8th. No sponges were introduced into the abdomen.

9th. He ligated the pedicle and dropped it in.

This operation will stand the criticism of the most exacting specialist of the year 1885, save in two particulars: viz., the ligature was not carbolized or scalded, the ends of it were left hanging out of the lower angle of the wound, and merely turning the woman on her side to permit all fluids to escape from the cavity of the abdomen was scarcely enough in that direction.

The incision was made to the left of the rectus muscle, but in his next case McDowell made it in the linea alba, between the umbilicus and pubis.

Pause a moment! Think; at the end of almost three-quarters of a century, the operation stands almost where McDowell left it, with one solitary exception, viz., the ends of the ligature surrounding the pedicle are cut short.

Restless human nature, not satisfied, sought other means of treating the pedicle, a review of which is fraught with good instruction. For eleven years the operation remained in the hands of McDowell, and he adhered to ligation of the pedicle, leaving the ends of his ligature hanging out at the lower angle of the wound. In 1820, Chrysmar, of Würtemburg, tied the pedicle in two portions, leaving the ends of the ligature hanging out at the lower angle of the wound. In 1821, Nathan Smith, of New England, tied the pedicle with "strips cut from a kid glove;" he cut the ligature off close to the knots, and dropped the pedicle into the abdominal cavity.

Neither Chrysmar nor Nathan Smith knew anything of McDowell's operations. Were the teachings of Hunter and John Bell working upon other minds, as well as upon the mind of Dr. McDowell? The last named sent to Mr. John Bell, of Edinburgh, an account of his cases. Mr. Bell being then in Italy, his colleague, Mr. Lizars, received the report. It is probable that this record was received in 1818. For six years Mr. Lizars kept it to himself. He attempted ovariotomy four times, and succeeded in one case, the patient surviving the operation seventy days. In one case he opened the abdomen by an incision reaching almost from the ensiform to the pubis, and thrust his hand into an empty belly. He requested every one of his students to put his hand into the abdomen, and finally exclaimed, referring to an army officer present, "Where is the military gentleman?" and had him make the same manual exploration. Mr. Lizars then closed the wound, *and it healed by first intention.*

Owing to the fact that Mr. Lizars's results were bad, twenty years elapsed before ovariotomy was again attempted in Scotland. In 1845, Dr. Handyside performed it. Another halt of seventeen years occurred, bringing us up to 1862, at which date but one success had been attained in Scotland. In that year Dr. Thomas Keith did his first operation.

Let us now cease the pursuit of Dr. McDowell's operation, as it was reported to Mr. John Bell, which report the latter did not live to see.

Up to the year 1843, I find the records of only eighteen completed ovariotomies in America. In this year, Dr. Alexander Dunlap, of Springfield, Ohio, and Dr. John L. Atlee, of Lancaster, Pa., did their first cases, the latter removing both ovaries. Eleven years later (1855), Dr. Kimball, of Lowell, began operating. These three are now the only living pioneers of the army. May they live long to enjoy the distinction!

The operations in the United States were already numerous, and the stability of the operation secured. This was before Sir Spencer Wells did his first ovariotomy.

It is estimated by Peaslee that up to the last quarter of 1863, over three hundred ovariotomies had been done in this country. At this date, Dr. Keith was only beginning in Scotland; the operation was performed for the first time in Russia, and was only a year old in Italy. Twelve years after the death of Dr. McDowell, in 1842, Dr. Charles Clay of Birmingham, England, did the first operation in that country; prior to this time, Jeaffreson, Walne, King, and West had each removed, by abdominal section, parovarian cysts. In 1851, Baker Brown began operating in St. Mary's Hospital, London; his results were not good, and the intense opposition of his colleagues drove him from the hospital; he then founded "The London Surgical Home," where his results compared favorably with those of any other surgeon of his time. *It was mainly due to his action that the practice of performing ovariotomies in large hospitals, where isolation is impossible, ceased.*

From Baker Brown, Nélaton learned the operation by personal observation, and returning to France, related, in a public lecture, how he had seen Brown do five cases, three of them in a single day; and thus through the influence of Brown on Nélaton, the opposition to ovariotomy in France was largely diminished. In 1854, Baker Brown taught Sir Spencer Wells the operation, and in 1857, Sir Spencer did his first operation. In 1864, according to Sir Spencer Wells, the operation was completely established in London, and, we may add with pride, in every country in the civilized world.

But while the surgical world recognized the operation, there was a diversity of opinion with regard to the treatment of the pedicle. From the date of Dr. McDowell's first operation up to 1821, when Dr. Nathan Smith operated, the ends of the ligature were brought out at the lower angle of the wound; Dr. Smith was the first to cut the ends off. For sixteen years afterwards no other method was offered. In 1837, Stilling, of Cassel, in the province of Hesse-Nassau, Germany, used the cautery, and suggested stitching the pedicle to the wound.

Nine years barren of new suggestions again elapsed, when, in 1846, Dr. Handyside, of Edinburgh, Scotland, carried the ligatures through the cul-de-sac of Douglas into the vagina. In 1848, Stilling treated the pedicle outside of the peritoneal cavity. Two years later, in 1850, this method was inaugurated in London by Mr. E. W. Duffin. The introduction of the extraperitoneal method of treating the pedicle by Stilling, in 1848, began a long and serious conflict which has happily died out with the method. Maisonneuve, of Paris, in 1849, had twisted the entire pedicle in one case, and Martin, of Jena, had stitched the pedicle to the wound. About this time Langenbeck stitched the pedicle to the wound, and covered it with skin from the margin of the incision.

Eight years later, in 1850, Dr. John L. Atlee, of Lancaster, Pa., introduced the écraseur to divide the pedicle. He was imitated by a number of prominent operators, notably by his brother, the late Washington L. Atlee, Sir Spencer Wells, Dr. Keith, Professor Pope, of St. Louis, U. S., and Professor Billroth, of Vienna. This year proved unfortunate for the operation, for during it Mr. Johnathan Hutchinson invented the clamp which perpetuated the extraperitoneal mode of treating the pedicle. In 1860, Sir James Y. Simpson secured the pedicle within the cavity of the abdomen by acupressure needles passed through the abdominal wall. About 1865, Koeberle, of Strasburg, invented his serre-nœud, or wire constrictor, with which he grooved the pedicle prior to applying the ligature.

In 1864, Mr. I. Baker Brown, of London, reverting to Stilling, of Cassel, established the use of the cautery, *a method rejected in London, taken up by Dr. Keith, and now credited through him with the best statistics yet attained by any operator.* In 1868, Masslovsky, a Russian, amputated the pedicle by double flaps, one on each side, and stitched the flaps together. In 1869, Dr. McLeod, of Glasgow, Scotland, by means of two pairs of strong forceps, twisted the pedicle entirely off. During this year, Dr. Peaslee invented a scabbard and knife by means of which the pedicle was secured, the ligature traversing the scabbard. After forty-eight hours the ligature was cut by introducing the knife into the scabbard, when both ligature and scabbard were withdrawn. In 1870, Dr. Thomas Addis Emmett reported eighteen cases in which he had secured the pedicle by means of silver wire.

Up to the present year (1885), every conceivable thing has been done with the pedicle. It has been tied entire; tied in sections; been twisted off; burnt off; crushed off; cut square off; cut off in flaps; left inside; left outside, and been made to slough off. The extraperitoneal method of treating the pedicle is gone. The question is now resolved into the merits af the ligature cut short, the Dr. Nathan Smith method, or the clamp cautery, as introduced by Mr. I. Baker Brown, of London, in 1864. If the clamp as devised by Mr. Jonathan Hutchinson was a bad instrument, and according to Mr. Tait, reduced the statistics that Sir Spencer Wells should have attained, it must have similarly affected the results of those who have employed it in the United States. Recently ligation and the cautery have given almost equal results.

The operation of Dr. McDowell in so far as it relates to the treatment of the pedicle, is, therefore, triumphantly where he placed it, despite the ingenuity of the surgical world, having undergone but a single alteration, namely, Dr. Nathan Smith's improvement of cutting the ligature short I have not been able to learn anything as to the extent sponges were used by the pioneer operators. When Dr. Keith was about to do his first operation, he had the water to be used boiled the night before, and he made everything scrupulously clean; during the operation he was surrounded by old practitioners.

After removal of the cyst, he thrust a big sponge into the abdomen, and brought it out full of fluid. As he was about to repeat this, one of the doctors seized his

arm, and exclaimed, "For God's sake don't do that again." While he hesitated, the others argued that any fluid left in the body would be a nice protection to the intestines. He closed the wound. Subsequently the patient did badly. He at once opened the wound and let out a pint of dirty fluid, and the patient recovered. From that time he advocated careful sponging after the operation, *and he was the first to insert a flat sponge under the wound while the stitches were being placed.* Koeberle, who also began to operate in 1862, *introduced the compression forceps and drainage, first by short and later by long glass tubes.*

I here show you the Baker Brown cautery clamp, used by Dr. Keith, the compression forceps of Koeberle, *also the modification by Sir Spencer Wells*, and the drainage-tubes so much in use by operators in Great Britain.

The technique of McDowell's operation is, probably, complete, *and its future will depend on the subject, the place of application, and the care taken to protect the patient from extraneous sources of danger.* It may be compared to a mighty oak, each decade of years having added to its greatness until its far-reaching branches furnish shelter for the thousands of men and women who require abdominal section. Its ramifications are hysterectomy for fibroids, hepatotomy, cholecystotomy, normal ovariotomy, the Hegar-Tait operation for the removal of both ovaries and tubes, nephrectomy, exploratory incisions, gastrotomy, and enterotomy. It still continues to grow, and the task of pointing out the leaves that have been added to its foliage during the last year requires our efforts ere they fall about the roots and contribute themselves to the growth of the parent tree.

Valuable lectures and papers have been given by Dr. Keith, Mr. Lawson Tait, Mr. Savage, Sir Spencer Wells and Mr. Bryant, all in the *British Medical Journal.*

The results of valuable experiments on lower animals have been published by Prof. C. T. Parkes, of Chicago. Many successful cases of the Hegar-Tait operation done by our countrymen, and the surgeons of Great Britain, have been published in various journals.

Mr. Thornton has been successful in gastrotomy for the removal of a large foreign body, and has had seventeen successful cases of nephritic surgery, ten of these being nephrectomy by abdominal section. Drs. Keith and Bantock continue to do supravaginal hysterectomy with unparalleled success, and it is premised that, if their success continues, it will elevate their method of operating beyond the reach of controversy. They both adhere to the extraperitoneal treatment of the stump, while the continentals practise the intraperitoneal method.

The recent visit of Mr. Lawson Tait to the United States, has given a great impetus to the Hegar-Tait operation for the removal of diseased tubes, and for the removal of ovaries and tubes for the cure of fibroids of the uterus.

For the purpose of encouraging the conservative abdominal surgeons, *those who look carefully to the environment of their patients*, I point with great pleasure to the fine statistics of Dr. John Homans, of Boston, and of Dr. Robert Battey, of Georgia, whose early initiation of normal ovariotomy was suggestive eventually of the Hegar-Tait operation which included the tubes.

Ovariotomy and its offshoots comprise almost, if not the entire field of abdominal surgery. The establishment of the parent operation brought out the others, if not for the first time, it revived and established them after they had been practically abandoned. "The seed was sown by Bell and Hunter, carried by McDowell, and planted in Kentucky;" its first growth was slow, but gathering strength from the passing years, its top has risen high, and its great branches cover a wide space, where unfortunate men and women of every land and clime gather to find relief from suffering and to acquire new leases of life.

The carbolic spray is still a matter of dispute. In Great Britain, Mr. Thornton adheres to it as of old, Drs. Keith and Bantock, and Mr. Tait will have none of it. The latter said to me, "I sold out all my right, title, and interest in Listerism, with my tea-kettle to Battey."

So far as I know, the best statistics yet obtained in ovariotomy in the United States belong to Dr. Battey, of Georgia, and Dr. John Homans, of Boston, Mass., both of whom operate under the carbolic spray, and in apartments kept especially for abdominal operations. I make special mention of the fact that these gentlemen use the carbolic spray, for the reason that Dr. Emmet says in his last edition, p. 715, "I do not know of any prominent operator in this country who now uses the spray," evidently an oversight.

I do not use the spray myself, but look upon the entire Lister system, less the spray, as firmly grounded in the surgical mind. Cleanliness and Listerism can never be separated, for "Listerism is the gospel of cleanliness;" without the latter you cannot have the former.

The year has wrapped up in its eternal folds one whose name is synonymous with the surgery of women; one whose reputation is immortal, who in America at least, stood next to McDowell; beloved by his own countrymen honored by the entire surgical world. No eulogy of mine can increase his fame. I speak of *the great, the good, the pure, the noble, the generous* Marion-Sims. Like McDowell, he possessed a genius for origination, and will share with him the admiration and plaudits of future generations.

MEDICAL PROGRESS.

Posterior Tarsotomy in Clubfoot of Long Duration.—At the meeting of the French Surgical Congress, held at Paris, April 6, 1885, M. Gross, of Nancy, read a paper on posterior tarsotomy in clubfoot of long duration. Various operations are preferred by different surgeons to remedy this deformity. Poinsot and Beauregard prefer cuneiform incision. Lucas-Championnière practises ablation of the astragalus. Ollier advises a mixed operation—excision of the cuboid, of the astragalus, and of the anterior part of the calcaneus. In order to make intelligent choice between the methods proposed, the pathological anatomy of the parts affected must be considered, and a study of the osseous lesions in varus demonstrates that ablation of the astragalus may be an efficient means of correcting the deformity. Sometimes ablation must be supplemented by incision of the plantar ligament. M. Gross exhibited plaster moulds showing the condition of the foot after the operation, and demonstrated that although some internal curvature still existed, the equinism was corrected, and while

the axis of the foot was inclined toward the inner border, the firmness of the tibio-tarsal articulation is perfect and still retained a certain degree of mobility. Nevertheless, ablation of the astragalus does not suffice in every case, and in varus equinus, after such operation, there always remains a deformity which can only be remedied by excision of a portion of the calcaneus and cuboid. In other cases, excision of the external malleolus will serve to correct the adduction; also section of the tendo Achillis. Excision of the astragalus is, however, the preferable operation.

M. Gross held, in conclusion:

1. That posterior tarsotomy is to be preferred as an operation for varus.

2. That with antiseptic precautions the operation is not dangerous.

3. That the solidity of the foot is assured.

4. That the tibio-tarsal articulation remains mobile, and that the movements of the foot depend chiefly on the condition of the muscles.

5. That return of the deformity is not to be feared.—*Gazette Hebdomadaire de Medecine et de Chirurgie*, April 10, 1885.

Indications for Operative Interference in Deep Wounds of the Abdomen, Particularly in Traumatism of the Intestine without Lesion of the Abdominal Walls.—Dr. Charasse, at the meeting of the French Surgical Congress, held April 6, 1885, concludes a paper on the surgery of deep abdominal wounds by an enumeration of the following principles:

1. Laparotomy should be practised in every case of rupture of the intestine without lesion of the abdominal walls.

2. The operation should be performed as early as possible, and before peritonitis has become severe and alarming.

3. If the rupture is small, one suture should be made, and a drainage-tube introduced; if it involves the whole intestine, or half of its circumference, an artificial anus should be established.

4. The operation is one of incontestable utility, the death-rate in such accidents having been exceedingly high. It is not and cannot be harmful, even when confined to a simple exploratory incision.

5. Contraindications are a pronounced state of collapse, as indicated by a temperature of 95° to 96⅘° F.; concomitant lesions of the spleen, pancreas, kidneys, and liver (the bladder excepted).

Cancer a Germ Affection.—A. Ledoux-Lebard, in a paper recently published, advances the theory that cancer is a parasitic disease. In proof of the position assumed he cites the experiments of Langenbeck, Fallin, Lebert, Cohn, and others, in which inoculation with cancerous tissue was practised, some giving positive and others negative results. Ledoux-Lebard considers actinomycosis a variety of cancer, and arrives at the following conclusions:

1. By its clinical, etiological, and, especially, its anatomo-pathological characteristics, cancer presents marked affinity with tuberculosis, a parasitic disease. And hence, there is reason to suspect its parasitic nature.

2. Certain forms of cancer (actinomycoses), belonging to the sarcomatous variety of tumors, are of a parasitic origin. It is, therefore, reasonable to suppose that other varieties are also of parasitic origin.

The paper is followed by an extensive bibliography.—*Archives Générales de Médecine*, April, 1885.

Osteo-sarcoma of the Clavicle; Resection of the External Three-fourths of the Bone, followed by Cure, with Conservation of all the Movements of the Arm.—Dr. Polaillon reports a case of osteo-sarcoma of the clavicle, in which the distal three-fourths of the bone were removed with resulting cure and conservation of all the motions of the arm. The patient was a girl 16 years of age. Six months previous to the operation the tumor first made its appearance, and, yielding to no treatment, gradually increased in size. The skin was entirely normal; there was but little pain on pressure. No pain was experienced either day or night. Effort made to write for a long time caused some pain. Quick movement of the arms also caused pain. Elevation of the arms was very painful, and almost impossible. The cervical and axillary glands were not enlarged. Examination showed that the tumor was movable with the clavicle, and that it probably had no relation with the deeper structures. Operation was performed under the carbolic spray. To isolate the tumor the fibres of the deltoid and trapezius, inserted in the clavicle, were cut. The clavicle was cut through immediately external to the insertion of the sterno-cleido-mastoid muscles, and disarticulated from the scapula. Antiseptic dressing, under a compress of wadding, was applied. In two days the dressing was renewed. In two weeks all the sutures and drainage-tube were removed. The health of the patient was excellent.

The 25th of March, 1885, less than two months after the operation, the absence of the clavicle was scarcely noticeable. The contour of the shoulder was preserved, and careful observation necessary to detect any difference between the two sides of the body. The arm was easily put and held in a horizontal position and the hand placed, without difficulty, on the back or top of the head.—*Gazette Médical de Paris*, April 4, 1885.

Deadly Pistol Wound, and Embolus by the Ball.—Dr. Schmidt, in the *Centralbl. für Chirurgie*, 1885, No. 8, p. 131, reports a case of suicide by pistol, in which post-mortem examination revealed the following: The ball traversed the sixth intercostal space in a course from below upward and from before backwards, and penetrated the left lung at a point corresponding to the fifth rib on the left side. After traversing the lung a distance of nearly three inches, the ball perforated the anterior wall of the left pulmonary vein, without, however, passing through it; the posterior wall being simply eroded. Search for the ball resulted in its discovery in the femoral artery. Its presence here Dr. Schmidt explains by supposing that, having entered the pulmonary vein, it was carried by the current of blood into the left auricle, thence into the ventricle, and from the ventricle as an embolus into the femoral artery. The valves of the heart were found in a normal condition.

No similar case seems to have been reported in medical literature.—*Gaz. Méd. de Paris*, March 14, 1885.

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SATURDAY, MAY 9, 1885.

THE TREATMENT OF CROUP.

THE terms croup and diphtheria have a never-failing interest to the practising physician, and there are probably no diseases concerning which he is more eager for information than these. It cannot be said that the ideas entertained with regard to these conditions, either as to their clinical history or morbid anatomy, are altogether unconfused, and contributions which promise greater definiteness from either aspect are always welcome. We have endeavored to keep our readers informed by noticing from time to time the most important facts, new or old, bearing upon the subject, as adduced in papers and in discussions before societies in this country and abroad, and have now to call attention to a recent valuable paper by DR. J. LEWIS SMITH in the *American Journal of the Medical Sciences* for April, 1885, and entitled "Membranous Croup; Diphtheritic Croup; True Croup."

Dr. Smith applies these terms to any pseudo-membranous laryngitis or laryngotracheitis, from whatever cause. The majority of cases are caused by diphtheria, but others are the result of cold, measles, pertussis, scarlatina, typhoid fever, and irritating inhalations; the rate of frequency being in the order named, and in all instances the morbid anatomy, clinical history, and required treatment are, according to Dr. Smith, so nearly identical that attempts to differentiate the disease as due to diphtheria or other cause, have been futile and unsatisfactory in districts where diphtheria occurs.

It will be seen that Dr. Smith does not ignore a croup due to cold, but says that the anatomical characters, clinical history, and required treatment are the same, and that in New York physicians scarcely recognize any other form of membranous croup than that caused by diphtheria. We do not think that this is exactly true of Philadelphia, for although it is a fact that the morbid anatomy is identical, and, it may be, the treatment demanded, it is generally recognized in Philadelphia that the adynamia in diphtheritic croup is much greater than in croup due to cold, and that the results of treatment, and especially of operative treatment, are correspondingly less favorable. At the same time we think Dr. Smith's classification a good one, and hope it may be generally adopted.

The differences in the false membrane in croup from cold and in diphtheria, are differences solely due to peculiarities in the mucous membrane on which it happens to be deposited. Thus there are no differences in that of the tracheal membrane from either cause, but the membrane formed in the fauces in diphtheria differs from that of croup from the same cause, as well as from that in croup from cold, in being more of the nature of a coagulation-necrosis, the coagulable material infiltrating the squamous cells, which die simultaneously with the infiltration, while in the larynx the membrane lies more upon the surface of the columnar cells.

With regard to treatment, which, for the reason given, he makes the same for all forms of croup, Dr. Smith evidently favors early tracheotomy,—that is, early after membranous laryngeal stenosis is established. He admits, however, that prompt measures, which, if deferred to a time in which such stenosis is established, are useless, may be of service in averting a degree of laryngitis indicated by simple hoarseness, which, if continued, might eventuate in irremediable obstruction. Such are keeping the air of the apartment moist by the croup kettle or by pans, over the fire, of hot water, to each of which is added a lump of lime, or better by steam atomizers. As an inhalation, he deems lime water, slightly turbid and containing about one and a half per cent. of liquor potassæ, as efficient and unirritating a solvent for false membrane as any of the alkaline mixtures. It also renders thinner and more easily expelled the mucopus, which collects in large quantities in the bronchial tubes, and is expectorated with difficulty on account of its viscidity.

Since its first introduction, Dr. Smith has also used with most satisfactory results, for dissolving pseudo-membranes, trypsin, and especially pencilling the fauces every half hour with a solution made by adding to six teaspoonfuls of water a teaspoonful of a mixture of one drachm of Fairchild's extract of pancreas and three drachms of sodium bicarbonate. A solution of trypsin prepared by Fairchild, and used with the atomizer, promises good results.

With regard to the calomel treatment, Dr. Smith admits that it probably exerts a salutary action

either on the exudative process or the pseudo-membrane, without being able to state precisely how it acts. In the ordinary form of diphtheria he would not advise the use of calomel, or would limit its employment to one or two doses of six to ten grains in the commencement of the disease, and in robust cases, but in the treatment of croup he would prescribe it in larger doses and for a longer time; but he does not order it after the first or second day, preferring other remedial measures which are efficient and less likely to produce injurious results. Our readers will be interested to know that a case of recovery is reported in which a child 28 months old took 20 grains of calomel dry on the tongue every two hours until the third day, when 720 grains had been taken, another of 3½ years in which 170 were administered, and a third, 130 grains in ten grain doses after a first dose of twenty grains.

Of the emetics, Dr. Smith considers sulphate of copper one of the best, in doses of two grains repeated, but that in ordinary cases probably the best is turpeth mineral—the yellow sulphate of mercury—in doses of two or three grains of the powder.

The value of the germicides Dr. Smith believes to be still *sub judice*, but gives their use, more particularly corrosive sublimate, due consideration, and refers to several cases in which the latter agent seemed to be followed by happy results. The well-known tolerance of children for the drug explains why it is that a child aged 9 years took $\frac{1}{40}$ of a grain every one and a half hours, and in one day nearly half a grain till the fifth day, when a little more than two grains had been taken. Similar cases are narrated, in one of which a child 2 years and 5 months old took $\frac{1}{48}$ of a grain every second hour for three days. Dr. Smith reccommends from the $\frac{1}{60}$ gr. to $\frac{1}{48}$ gr. every hour or two, but says, also, that it does not seem necessary or prudent, in ordinary cases, to continue the use of the bichloride more than three or four days, in large and frequent doses.

Supporting measures are also required, particularly when the croup is diphtheritic in origin, and among these the tinctures of the chloride of iron, potassium chlorate, quinine, brandy or other forms of alcohol, have their place. All these measures, however, especially if not promptly adopted, are inadequate in a large majority of cases, and surgical interference must be had The indications for it are, according to Dr. Smith, a gradual increase of the stenosis and consequent dyspnœa, notwithstanding constant and judicious use of remedial agents, and a manifest suffering from want of air, as shown by restlessness and the expression of suffering in the patient's features, with or without lividity of the surface. When these symptoms appear the duty of the physician to relieve suffering should prompt to operative treatment, even if the important object of saving life be disregarded.

The two operative measures employed are tubage and tracheotomy, with regard to which we may have something to say in a future issue.

If, now, we compare Dr. Smith's treatment with that of Jacobi, as published in his article on diphtheria in the volume of the *American System of Medicine* just issued, we find first with regard to steam, which Dr. Smith would appear to recommend for all cases of croup, that Jacobi says it can only be expected to increase the secretion from the mucous membrane, and thereby throw off the subjacent membrane, when there is a natural tendency to it—that is, where there are a great many muciparous follicles under a columnar or ciliated epithelium. This is the condition in the pharynx, but in only a small portion of the larynx, in the trachea and bronchi, but not on the vocal cords. Again steam in an overheated room, and without pure air, liable to be as injurious as steam in pure air is beneficial to many. Jacobi has repeatedly seen children with croup become less cyanotic after their removal from an atmosphere of vapor, and he can readily see that pure atmospheric air would be more agreeable and wholesome to a child with stenosis of the larynx than an atmosphere laden with steam.

Water, according to Jacobi, is serviceable in various ways. Taken in large quantities, it not only causes copious perspiration, but the same effect is produced on the mucous membrane. Cold and ice applications are not mentioned by Smith, and there is no single measure which we regard so useful. But, according to Jacobi, these, too, have their limit. They are not well borne by very young infants, and the beginning of recovery contraindicates their use, as does also the absence of fever. In such cases, while unlimited internal stimulation is required, the hot bath or hot pack, and hot injections into the bowel will be found beneficial.

Jacobi is not enthusiastic over the solvents for membrane, including lime water, glycerine, lactic acid, pepsin, papayotin, chinolin, and pilocarpine, doubting whether there are sufficient time and opportunity to produce a curative effect. Trypsin had not been introduced when he wrote his article.

Turpentine inhalations, recommended by Edel, are not referred to by Dr. Smith. Jacobi favors their use, floating a tablespoonful of the oil on water, which is kept boiling on a stove or over an alcohol lamp, care being taken that none is spilled on the flame. Ammonium chloride, for its softening and liquefying effect, may be used internally or burned over alcohol or gas. Calomel, for its constitutional rather than its abortive effects, is recommended by Jacobi, 8 to 12 grains in divided doses, and for the same purpose the oleate of mercury rather than the blue ointment, by inunction.

Jacobi's views as to the mode of administration of

the chloride of iron are such that, if they are correct, an important modification of the more usual plan will be necessary. He has not the least doubt that the failure of the remedy may be attributed, in most cases, to the fact that the doses are too small and too seldom administered. Accordingly, he would give 5 to 15 drops, properly diluted, every fifteen minutes or half an hour. Gargles containing this substance are of no service, because they do not remain sufficiently long in contact with the parts. Its direct application is needlessly irritating, while its frequent administration, in the manner described, secures sufficient local action, for which, as well as for its general effect, it is administered.

THE RADICAL CURE OF HYDROCELE.

AFTER Volkmann's operation for hydrocele, which consists in freely opening the sac, and stitching its edges to the scrotal tissues, the fluid reaccumulates in about 1.54 per cent. of all cases, from the failure of the apposed surfaces of the vaginal tunic to unite. With a view to obviate this untoward result, Julliard resects the vaginal tunic, saving, however, enough to cover the testicle and cord, and sews the edges together with catgut sutures. Of his 54 cases, there was recurrence in 1, or 1.85 per cent., so that his operation has not proved to be an improvement upon that of Volkmann on the score of infrequency of the failure of the procedure.

The latest operation that has been recorded is that of Von Bergmann, an account of which is published by his assistant, DR. BRAMANN, in the *Berliner klinische Wochenschrift*, No. 14, 1885. The hydrocele having been freely laid open, the parietal layer of the vaginal tunic is excised, the epididymis and testicle remaining covered by that membrane. The bleeding having been arrested, and the cavity irrigated with a three per cent. carbolic solution, the edges of the wound are approximated except at the most dependent part, at which point a drainage tube is inserted. The parts are then covered with sublimate gauze and cotton, and gentle compression exerted upon them by means of a carbolic bandage.

In the twenty cases in which the operation was practised, all pursued an aseptic and an almost afebrile course. In none was there suppuration or phlegmon of the scrotum, nor was epididymitis or orchitis met with, accidents which have not infrequently been observed after Volkmann's procedure. In from ten to twelve days the healing process had sufficiently progressed to enable the patients to resume their occupations, but in the majority of the cases there was a slight painless thickening in the region of the testicle, which disappeared in a short time.

So far as a conclusion may be drawn from the very limited test to which the operation of Von Bergmann has been subjected, it may be pronounced to be free from danger to life and the inconvenience of relapse; but whether this conclusion will be borne out by a more extended experience is very questionable. Thus, of 305 cases of Volkmann's operation which we have collated—and it is a simpler one than Von Bergmann's—4 died, and there was recurrence in 4, while, as we have seen, there was 1 recurrence out of 54 cases of partial excision of the vaginal tunic in the practice of Julliard. Our own opinion is that not a single one of these procedures should be resorted to in ordinary cases, but that they should be reserved for those cases in which the sac is much thickened, and for examples of recurrence after the injection of carbolic acid, which we regard as being the most promising, safest, and simplest of all the modern measures that have been suggested for the radical cure of hydrocele.

THE INTERNATIONAL MEDICAL CONGRESS AND THE AMERICAN MEDICAL ASSOCIATION.

THE action of the American Medical Association at its recent meeting, expressing dissatisfaction with the work of the Committee of Organization of the Ninth Session of the International Medical Congress, was unexpected, but it is now easy to see how it was brought about.

The Committee in undertaking its task, of course believed that it had been clothed with full powers, and, as far as authority from the American Medical Association is concerned, this belief appears to be justified by the resolutions under which the invitation was extended, and which were as follows:

"*Resolved*, That a committee of seven, of which Dr. Austin Flint, the President of this Association, shall be a member, shall be appointed by the President.

"*Resolved*, It shall be the duty of this Committee to extend, in behalf of the medical profession of the United States to the International Medical Congress about to meet at Copenhagen, a cordial invitation to have the next International Medical Congress meet at Washington, D. C., in 1887.

"*Resolved*, That the Committee shall elect its own officers, and that, in case the invitation is accepted, it shall proceed to act as an Executive Committee, with full power to fix the time and to make all necessary and suitable arrangements for the meeting of such Congress, and to solicit funds for this purpose.

"*Resolved*, That the Committee shall have power to add to its membership, to perfect its organization, and that, to meet the preliminary expenses of printing, postage, etc., the Chairman of this Committee is authorized to draw upon the Treasurer of this Association for an amount not exceeding four hundred dollars."

The Association acted on the hypothesis that, inasmuch as it had voted that an invitation be extended "in behalf of the medical profession of the United States," to the Congress to hold its Ninth Session in Washington, which had been accepted, therefore, the authority vested in it to organize the Washington Congress. The action of the Association in formally disowning the subsequent

work of the Committee of Organization must, of course, cause embarrassment, and great care is necessary to prevent unpleasant results, especially since the important appointments made in the course of preliminary organization have been widely published, both in this country and in Europe.

The Committee has acted on the theory that the International Medical Congress is a permanently organized scientific body, in which the medical profession of the United States has a right to be represented as a whole, that the men to be selected to organize the Sections should be men of scientific reputation both at home and abroad, and that if a man is thus well known, his place of residence is a secondary matter. The Association, on the contrary, prefers the State as a unit of organization to the United States, and wishes to have the Congress organized on essentially the same plan as the Association itself. This we believe to be a mistake, due to an erroneous view of the nature and objects of the Congress, but the mistake has been made, and the only thing now is to do the best that can be done under the circumstances, and to this end we are confident that wise and conservative counsels will ultimately prevail.

It is of course impossible to predict the action which the Committee of Organization will take in this matter. It is safe to say, however, that it will do nothing without due consideration, keeping in view its responsibility to the Executive Committee of the Copenhagen International Medical Congress, and its duty to the medical profession of this country as well as to that of Europe, to secure, if possible, harmonious action, and to prevent the country from being disgraced by a failure to meet the obligations incurred by the invitation which has been extended and accepted.

At the best, there must be, now, delay in the work of organization, but there is time enough to permit of this, and we hope that our professional brethren abroad will not jump to a hasty conclusion, and suppose that the dissensions which have been stirred up among us are so great that it will be better to change the place of meeting of the Congress.

LACTIC ACID AS A DESTRUCTIVE OF DISEASED TISSUES.

Professor Von Mosetig-Moorhof, of Vienna, induced by numerous observations upon the destructive action of concentrated lactic acid upon fungous granulations, has most successfully employed that agent in lupus vulgaris, superficial epithelioma, and papillomatous growths. When brought in contact with diseased tissues, the latter, in the course of a few hours, are converted into a loose, black pultaceous mass, the cells, stroma, and vessels being completely destroyed, without the slightest effect having been exerted upon the adjacent healthy parts, through which the agent possesses manifest advantages over ordinary escharotics.

The mode of applying the remedy is as follows: The parts, having previously been carefully cleaned, are covered with absorbent cotton wet with the fluid, over which a piece of impermeable material, as rubber cloth, is placed, and the whole confined with a roller; or a soft paste, made by the addition of pure silicic acid, is spread upon gum tissue, and secured in place. At the expiration of about twelve hours, the dressings are removed, and water applied for one or two days, when the application is renewed. The treatment is continued in this way until all the morbid tissue has disappeared, as is shown by commencing cicatrization The application is by no means painless, but it is readily borne.

The resulting scar is soft and smooth, but as yet Mosetig is unable to speak as to the final result with regard to recurrence. He, however, thinks that lactic acid is indicated more especially in those cases of lupus and rodent ulcer in which the patient objects to the use of the spoon, and in cases of epithelioma which are beyond the reach of the knife. The remedy certainly deserves a fair trial, as it is the only one of which we have any knowledge that acts solely upon the diseased tissues. Mosetig's paper may be found in the *Centralblatt für Chirurgie*, No. 12, 1885.

ABDOMINAL SECTION IN RUPTURE OF THE CYST IN EXTRAUTERINE PREGNANCY.

Authorities differ as to the proper treatment in case of rupture of the cyst in extrauterine pregnancy. Lawson Tait, whose views upon this subject were presented to our readers a few months since, strongly advocates immediate abdominal section with removal of fœtus and of the fluids that have been poured out in the abdominal cavity, and arrest of hemorrhage by ligation of bleeding parts. On the other hand, Dr. W. W. Jaggard, in a paper recently read before the Chicago Medical Society, strongly advocated palliative measures in such condition. Dr. Jaggard, in the course of his argument, suggests it as possible that recovery after ectopic gestation is not an uncommon event, quoting Schroeder, who states that he so frequently sees cases of tubal pregnancy, in which the diagnosis is positive, pursuing a favorable course, that he considers recovery as the regular termination. He further regards the prognosis of the operation of abdominal section as very unfavorable, among other reasons, because of the patient being in a condition of more or less profound shock, and because of her acute anæmia, while the anatomical conditions of the parts are not easily made out even in post-mortem examinations of those who have died from ruptured gestation cyst.

The palliative treatment is also advocated by Karl Braun, Schroeder, Martin, Wells, Thomas, and Emmet.

SOCIETY PROCEEDINGS.

THE AMERICAN MEDICAL ASSOCIATION.

Thirty-sixth Annual Meeting, held at New Orleans, April 28, 29, 30, and May 1, 1885.

(Specially reported for THE MEDICAL NEWS.)

FRIDAY, MAY 1ST.—FOURTH DAY.

THE Association was called to order at 10.30 A. M. by VICE-PRESIDENT DR. J. S. LYNCH, of Maryland.

The Committee of Arrangements reported a few additional entertainments.

The following were announced to have been appointed, under the resolutions adopted on Wednesday, as the additional members of the Committee of Arrangements for

THE INTERNATIONAL MEDICAL CONGRESS:

Dr. G. A. Ketchum, of Mobile, Ala.
Dr. D. A. Linchicum, of ——, Ark.
Dr. R. Beverly Cole, of San Francisco, Cal.
Dr. Chas. Denison, of Denver, Col.
Dr. ——, of ——, Conn.
Dr. L. P. Bush, of Wilmington, Del.
Dr. A. Y. P. Garnett, of Washington, D. C.
Dr. R. D. Murray, of ——, Fla.
Dr. R. Battey, of Rome, Ga.
Dr. E. P. Cook, of Mendota, Illinois.
Dr. F. M. Beard, of Vincennes, Ind.
Dr. ——, of ——, Iowa.
Dr. D. W. Stormont, of Topeka, Kan.
Dr. W. H. Wathen, of Louisville, Ky.
Dr. J. W. Dupree, of Baton Rouge, La.
Dr. S. C. Gordon, of Portland, Me.
Dr. J. S. Lynch, of Baltimore, Md.
Dr. A. H. Wilson, of South Boston, Mass.
Dr. A. R. Smart, of Hudson, Mich.
Dr. George F. French, of Minneapolis, Minn.
Dr. J. M. Taylor, of Corinth, Miss.
Dr. N. F. Essig, of Plattsburg, Mo.
Dr. R. C. Moore, of Omaha, Neb.
Dr. J. W. Parsons, of Portsmouth, N. H.
Dr. William Pierson, of Orange, N. J.
Dr. Ellsworth Eliot, of New York.
Dr. ——, of ——, N. C.
Dr. N. C. Scott, of Cleveland, Ohio.
Dr. J. V. Shoemaker, of Philadelphia, Pa.
Dr. W. E. Anthony, of Providence, R. I.
Dr. R. A. Kinloch, of Charleston, S. C.
Dr. F. L. Sim, of Memphis, Tenn.
Dr. William McLaughlin, of Austin, Texas.
Dr. W. C. Dabney, of Charlottesville, Va.
Dr. ——, of ——, Vt.
Dr. G. Baird, of Wheeling, W. Va.
Dr. N. Senn, of Milwaukee, Wis.
Dr. Robert Murray, U. S. A.
Dr. J. B. Hamilton, U. S. Marine Hospital Service.
Dr. F. M. Gunnell, U. S. N.

The Committee was called to meet at once.

DR. QUIMBY, of New Jersey, offered the following:

Resolved, That the Committee appointed in pursuance of a resolution adopted by this Association, April 30, 1885, to constitute an addition to the original Committee of seven previously appointed to invite and make arrangements for the meeting of the International Medical Congress, to be held in Washington, D. C., in 1887, be, and the said Committee is, hereby authorized and empowered to select a Chairman and a Secretary, and to fill all vacancies that may occur by death or inability to attend in the committees, and to appoint the officers of the Congress. Adopted.

PRIZES.

DR. R. HARVEY REED, of Ohio, offered the following:

Resolved, That a committee of three be appointed by the President, whose duty it shall be to devise a system for the awarding of honors to those who may desire to present original papers at the next meeting, and that the said committee shall report through the *Journal* of the Association. Adopted.

THE RESIGNATION FROM THE JUDICIAL COUNCIL

of Dr. Brodie was read and the resignation accepted.

STATE BOARD OF MEDICAL EXAMINERS.

The Section on State Medicine presented the following:

Resolved, That the Section on State Medicine heartily recommends the appointment in each State of a State Board of Medical Examiners and Licensers.

That the Committee appointed by the Association shall construct and forward to each State Society the form of a bill, the passage of which by the Legislatures these Societies shall be requested to urge strongly.

DR. KELLER, of Arkansas, asked that his resolution in regard to

CREMATION,

offered three years ago, be now taken from the table and considered. On motion, it was referred to a special committee to report next year.

The Nominating Committee reported the following additional

NOMINATIONS:

Trustees of the Journal.—Drs. J. M. Toner, of Washington; J. H. Hollister, of Chicago; E. M. Moore, of Rochester, N. Y.

Committee of Arrangements.—Dr. Legrand Atwood, of St. Louis, Chairman.

Judicial Council (to fill vacancy occasioned by resignation of Dr. Brodie).—J. K. Bartlett, of Wisconsin. Adopted.

THE ADDRESS IN OPHTHALMOLOGY, OTOLOGY, AND LARYNGOLOGY,

was read by DR. J. A. WHITE, of Virginia. After referring to the difficulties of reviewing, in a proper manner, the advancements that have been made in any single branch of the medical sciences, he gave a critical review of the ophthalmological work of the past year; notably, the efforts made for the improvement in the treatment of detached retina. He also recommended the substitution of enucleation by evisceratio bulbi, which was originated by Dr. Henry D. Noyes, of New York, but was comparatively unknown until Alfred von Graefe brought it prominently forward. The important work of Landolt in determining the converging power; the improved indications for the use of jequirity; and the value and application of cocaine,

with an explanation of its physiological action, all received due attention.

The main consideration of the paper was the reflex neuroses of the nose, such as reflex cough, sick headache, hay asthma, etc., in which, with a full review of the present aspect of that question, the author produced facts, in many instances somewhat at variance with the idea that engorgement of the nasal mucosa is essential to the production of the reflex phenomena.

Dr. J. H. Pope, of Texas, then delivered

THE ADDRESS IN DISEASES OF CHILDREN.

He said that there have been no special advances in the department which he represented, unless it be in the improvements in certain methods of treatment, and in remedies. A good many so-called specific remedies have been introduced, and their value cannot be determined at so recent a date. Among other advances has been the use of disinfectants. Notably among these is the bichloride of mercury. Dr. J. Lewis Smith, of New York, has called especial attention to his results from its use in diphtheria. Some of the cases which he has reported are remarkable. In some of them tracheotomy appeared almost unavoidable, but by the persistent use of bichloride of mercury the dangerous symptoms were averted.

As regards the pathology and etiology of children's diseases, there cannot be said to have been any advance. He, however, stated that in his experience a new view of the causation of rickets could be advanced. He had observed that it occurred more frequently in children who were nourished at the breast until long after the proper time for weaning than in any other class. Too long nursing then was one of the most frequent causes of the affection. He expressed, in conclusion, strong regret that the Section on Disease of Children is not better attended at all the meetings. This fault was not perhaps so patent at this meeting as at a number of previous ones, when compared with the attendance, but there was still not the number present that should have been.

Dr. Quimby, of New Jersey, reported that the committee appointed to consider the suggestion of the President that a section on forensic medicine be added to the present list of sections, had considered the matter and now recommended that such a section be formed, to be styled, a

SECTION ON MEDICAL JURISPRUDENCE,

and that the constitution be so amended as to admit of this addition to the sections already in existence.

The Address on Oral and Dental Surgery was read by title, the author, Dr. W. W. Allport, of Illinois, being absent.

THE REPORT OF THE COMMITTEE ON NECROLOGY

being called, Dr. J. M. Toner, the Chairman, stated that since the establishment of the *Journal* he had reported promptly through it all the deaths of members. He asked further that the members of the Committee on Necrology, in each of the States, should report promptly either to him or to the editor of the *Journal* all deaths of members as they occur.

Dr. Eugene Smith, of Michigan, stated that at the last meeting of the Association a resolution was offered by Dr. Seiler, of Philadelphia, providing for the

DIVISION OF THE SECTION ON OPHTHALMOLOGY, OTOLOGY, LARYNGOLOGY, AND RHINOSCOPY,

into two separate bodies, one to be known as the Section on Ophthalmology, the other as the Section on Otology, Laryngology, etc., and moved that it be now taken up for action.

The motion being carried, Dr. Smith moved that it be permanently tabled, such a division being clearly inexpedient and unnecessary. The motion was unanimously carried.

A motion was then made to take up the remaining resolutions laid on the table at the last meeting.

Dr. Von Klein's (Ohio) resolution providing for the requirement of a

HIGHER EDUCATION

in order to become members of the American Medical Association, and other requirements intended to elevate the standing of the profession, was then called up.

The Secretary stated that a letter had been received from Dr. Von Klein, requesting that his resolutions be laid on the table for another year. It was the opinion of the Association that they could be acted upon at once, and they were tabled indefinitely.

The resolution of Dr. Cochran, of Alabama, that it is the sense of the Association that it is not expedient for the members of

THE NOMINATING COMMITTEE

to nominate any of its own members to offices of the Association, was taken up and discussed at length, and finally laid on the table.

A VOTE OF THANKS

was tendered by the Association to the entire profession of New Orleans, and particularly to the Committee of Arrangements, who have by their attentions and kindness enabled the members to enjoy thoroughly this meeting of the Association. Also to Dr. and Mrs. T. G. Richardson, Mr. and Mrs. Cartwright Eustis, and the New Louisiana Jockey Club, all of whom have added greatly, by their hospitality, to the enjoyment of the Association.

Dr. M. H. Henry was announced as a

DELEGATE TO THE BRITISH MEDICAL ASSOCIATION,

and it was further resolved that other members desiring to become delegates could be elected by the vote of the President and Permanent Secretary.

THE PRESIDENT-ELECT,

Dr. Brodie, was then introduced, and accepted the trust in a few words of appreciation of the favor.

The retiring President, Dr. Campbell, thanked the Association for their consideration and assistance during the session just ended.

Adjourned.

Section on the Practice of Medicine, Materia Medica, and Therapeutics.

Tuesday, April 28th.—First Day.

The Section was called to order at 3.40 P. M., Dr. H. D. Didama, of New York, Chairman, presiding.

Dr. W. A. Love, of South Carolina, stated that if he

was in order, he would move that the resolution from the South Carolina Medical Society on the

DISCOVERY OF THE ANÆSTHETIC PROPERTIES OF ETHER,

which was referred to this Section by the Association, be entrusted to a special committee, with instructions to report at this meeting, if possible; if not, at the next.

Adopted.

The Chairman appointed Dr. W. A. Love, of South Carolina; Dr. H. J. Bigelow, of Massachusetts; and Dr. R. J. Dunglison, of Pennsylvania.

Dr. L. Duncan Bulkley, of New York, read a paper on

THE TREATMENT OF CARBUNCLE WITHOUT INCISION.

He related the case of a gentleman, aged 56, large and florid, who suffered for several years with eczema of the left foot. He was also diabetic. Following upon this eruption was a large carbuncle. He applied to this tumor, thickly spread on the woollen side of lint, the following ointment:

R.—Ergot. fl. ext.	℥ij.
Zinci oxidi	℥ss.
Unguent. aq. rosæ	℥ij.—M.

Covering this was cotton-batting, to prevent blows or injury. He was given sulphite of calcium ¼ gr. every two hours, and occasionally the following:

R.—Magnesiæ sulphat.	℥iv.
Ferri sulphat.	℥j.
Acid. sulphurici dil. . . .	℥iij.
Syr. zingiber.	℥j.
Aquæ	ad. ℥iij.—M.

S.—Teaspoonful in water through a tube three times daily.

At bedtime, Dover's powder was administered to give rest when required. The result of the treatment was cessation of pain, rapid resolution, and a cure, except some induration, in eighteen days. The man continued at his work.

He summed up his paper as follows:

1st. Avoid any irritation, as pressure, blows, etc.

2d. Avoid warmth and moisture, as in poultices.

3d. Avoid incision.

4th. Do not use stimulants.

5th. Protect the inflamed parts with the ointment given above. The solid extract of ergot may be used if desired. Spread the ointment at least one-third inch thick.

6th. Use sulphite of calcium every two hours for its effect upon suppuration.

7th. Employ good, nutritious food, and fresh air.

8th. A sedative, if desired, and occasionally the laxative and refrigerant tonic as above.

The advantages are:

1st. Short time required for recovery. 2d. Cessation of pain. 3d. No scar. 4th. No operation. 5th. No detention from business.

Dr. Hibberd, of Indiana, said that up to a year ago he had tortured his cases with poultices, incisions, and the orthodox measures generally. Since then he had used in every case oleate of morphia. He had this rubbed gently into the base of the tumor, and gradually encroaching upon the tumor itself, every three hours. The pain always ceased within twenty-four hours, and in ten to fifteen days the patients were well, except a little induration.

Dr. Savage, of Tennessee, three years ago began the use of cantharidal collodion applied in a ring one-half to one inch broad around the base. This forms a blister and eases the pain at once. He makes a small incision, also, if pus has formed. In one case he applied a cantharidal plaster over the whole tumor and extending beyond it, with excellent results; the patient a farmer, was following the plow in a week. He gives internally calcium sulphite, one-fourth of a grain, four times daily.

Dr. Bulkley said that he uses this form of treatment in large and small tumors. He lets them run their course, protecting them as much as possible and allows nature to do the opening. In using calcium sulphite, it is important to be sure that it is fresh; the gelatine-coated preparation is preferable. Exposed to the air, it becomes gypsum. He had not used oleate of cocaine.

Dr. A. F. Pattee, of Boston, read an article on

THE PERCUTEUR: ITS USE IN DISEASES OF THE NERVOUS SYSTEM.

This instrument had been introduced by Dr. Granville, of England, to carry out his theory of nerve vibration and excitation in the cure of disease. In the instrument exhibited electricity was used to give motion to the hammer. By this hammer percussion was practised along the course of diseased nerves or the spinal cord. Several cases were detailed in which improvement followed.

Dr. R. Harvey Reed, of Ohio, read a paper on

HYDATID TUMOR OF THE BRAIN.

He stated that hydatid cysts are caused by either the echinococcus or the cysticercus cellulosa; that the former are the embryo of the tænia echinococcus and the latter of the tænia solium. He then followed with a description of a cycle of life of these parasites as he understood them, and closed with a detail of his four cases. The size of the cysts varies according to the locality and the space allowed for expansion. No very great damage results from these cysts if they occur in the cellular tissue. In muscle tissue the danger increases with the depth. Those deposited in the posterior chamber of the eye give serious trouble. In the brain they are rare, are ultimately fatal, and the symptoms are very obscure. He had charge of four cases, in all of which he had held autopsies and in two of which he had diagnosed hydatids before death.

A travelling doctor, age 46, first came to Dr. Reed in 1880, complaining of being easily fatigued both mentally and physically. Later he began to suffer from vertigo, which increased; his head would fall forwards; if he attempted to walk he staggered; very nervous; appetite bad; bowels regular; urine normal; stupor supervened, increased, and death followed. At the autopsy an hydatid tumor was found.

Dr. ——, of Iowa, was inclined to doubt the correctness of the diagnosis had not the statements been proved by the microscope. Cases of this nature are rare in this country, and many physicians had never seen a case. It would be difficult for the parasite to

find its way into the brain, and it is strange that in none of the cases were any of the other organs, especially the liver, affected.

DR. WHITTAKER, of Cincinnati, did not think these cases could serve as statistics until Dr. Reed furnished trustworthy and satisfactory evidence that the tumors were hydatid cysts. Certain cysts occurred in the brain, some of an apoplectic nature, which resembled in many particulars hydatid cysts. He would ask who made the microscopical examinations, and what the results were?

DR. REED could not explain how so many cases should occur in Ohio. It is just as easy for the embryo to get into the brain as anywhere else. He had examined many cysts from the rabbit, in which animal they are frequent, and he is familiar with the microscopical appearance of the tumors and the hooklets. He had examined two of the tumors, and demonstrated their hydatid nature. One of the tumors had been sent to Cleveland, where it was lost, the other had been stolen.

Several members, among them Dr. Didama, and Dr. Hibberd, objected to Dr. Reed's statements of the natural history of the tæniæ and the stages of development. The Chairman gave the generally accepted views on this point.

DR. WHITTAKER, of Cincinnati, read a paper on

AN ATTEMPT AT A RADICAL TREATMENT OF TUBERCULOSIS.

The attempts were made with subcutaneous or parenchymatous injections of a solution of bichloride of mercury into the lung at the site of the disease. He used a preparation consisting of common salt 10 parts to 1000, and corrosive sublimate 1 to 1000. He administered the injections every day, amounting to about one-eighth of a grain in a syringeful of water. Though he watched the cases carefully the results were negative.

WEDNESDAY, APRIL 29TH.—SECOND DAY.

The Secretary read DR. AUSTIN FLINT'S paper on

A UNIFORM NOMENCLATURE OF PHYSICAL SIGNS WHICH OCCUR IN CONNECTION WITH THE RESPIRATORY SYSTEM.

The Secretary conveyed Dr. Flint's regrets at his enforced absence, and his request that his paper be read.

The paper was a provisional report of the Committee appointed at the meeting of the International Medical Congress, in London in 1881. The Committee had been composed of English, American, French, and German members, and it was decided that work should be assigned to five subdivisions in accordance with the nationalities above mentioned. Five lists were thus drawn up with much care and study, and were exchanged. The result of their work has already appeared in THE MEDICAL NEWS, of Sept. 6, 1884, p. 273.

Heretofore terms were very loosely applied, and carelessly selected—in some cases signs were named after authors or discoverers. They should be chosen by analytical study, by analysis, and comparison of physical signs. The most important elements to be considered in establishing a nomenclature of physical signs are: 1, intensity; 2, pitch; 3, quality; 4, distance; 5, moisture or dryness; 6, succession or continuity. The only solid foundation for such a study are clinical observation and autopsies.

The Secretary read a paper by DR. A. T. KEYT, of Cincinnati, on

CARDIOGRAPHY,

which was defined to be the art and science of graphic representation of the heart's action by means of an instrument based on the same principle as the sphygmograph, and applied to the heart's point of impulse upon the chest. It is less known than its sister instrument, but was applied as early as 1880, by a French observer, and is worthy of attention. The application of the cardiograph was illustrated by diagrams and some cases.

DR. N. S. DAVIS addressed the Section on the

RELATION OF CHEMICAL FACTS TO THE QUESTION OF CONTAGIOUSNESS OF PHTHISIS PULMONALIS.

The determination of such a question as the one before us, he said, should rest on the completeness of clinical history and observation, with a careful study by instruments of precision of all the secretions and fluids of the body. If the bacillus tuberculosis is found in some excreta, we are at once told that the case is phthisis, and the bacillus is the cause. Are these statements necessarily correct? Grant that the bacillus is found in all tubercular matter and not in other matter, and grant that such tubercular matter, if inoculated, is always followed by tuberculosis, is it necessarily the case that the bacillus is the cause of the disease and the disease itself contagious? Is it not just as fair to presume that the bacillus is simply an accompaniment of the diseased process found with it, but not the cause? Is it not just as legitimate to say that it got there after the beginning of the disease, but not as a cause? But some form of bacteria accompanies every form of deterioration. The microscope must be called in to assist in settling this point. It has shown that the bacillus is not present in all cases. But if a microscopist, however expert, finds some tubercular matter without the bacillus, they say his observations are imperfect. According to this, Koch must examine every specimen of such matter, or the result will be questioned.

If tuberculosis follows the inoculation of tuberculous matter, or the bacillus in animals easily made tuberculous, then three probabilities may be asserted: 1. The bacillus may be the cause; 2. The matter may be the cause; or, 3. The excreta may be the cause. Inoculation with the bacillus *alone*, without any other matter, has never been accomplished, and doubts must always accompany the results of the experiments until some one catches one of these little organisms by the tail and inserts it alone in the subject. One great fault of medicine is jumping to conclusions from one, two, or three data. We are told if we fail to find bacilli maybe the spores are there. As to spores, he would say that years of microscopical study have shown him that one can see anything with the instrument he sets out to find. Where do spores come from? If a body of a healthy man be exposed twelve hours in a high temperature an abundance of spores will be found. All organic matter undergoing decay is accompanied by some form of spores. May not the atoms of bioplasm which develop into

high forms, as cells, in the process of deterioration change in germs.

He has gathered up much material reviewing the clinical facts of cases supposed to have resulted from contagion. Of the millions exposed to infection he ventured to say that not one in a thousand manifests any indication of the disease. In the Hospital for Consumptives, in which there has been an average of fifteen Sisters of Charity as nurses since 1850, not one has died of phthisis. Of the internes, of whom there are usually four, not one that had not any indications of the disease prior to his entrance has died of consumption. And the story is the same in all hospitals. When we adduce such facts we are given histories of cases where husbands infect their wives, or vice versa. These are only coincidents. We are further told that bacilli are floating in the air. If so, and the bacillus is the cause of consumption, why has not the human race been annihilated? We are told that it requires a predisposition or starting point of deterioration. If so, then logic would say that the deterioration or predisposition was the disease, and the bacillus was only present as other germs.

Dr. Lynch, of Maryland has been engaged in investigating this question, and had attended the meeting at Washington for this purpose. The conclusion at which he had arrived was that the bacillus is not a factor in the cause of phthisis. It is found wherever there is any cellular matter. In every pathological state some bacteria are present, but they do not produce specific disease if carefully separated from the matter in which they exist. Ten young men inoculated themselves with the gonococcus without any result.

Dr. Whittaker, of Cincinnati, believed that tuberculosis is contagious, and that the bacillus is the cause. He believed that more than half of us have tuberculosis, but only a few develop into consumption and die.

Dr. Shoemaker read a paper on *The Hypodermatic Injection of Oils in the Treatment of Diseases;* and Dr. R. J. Nunn, of Savannah, read one on *The Mineral Foods, and How to Give them.*

Thursday, April 30th.—Third Day.

Dr. J. H. Hollister, of Chicago, read a paper on

cholera and its treatment.

1. Its origin; 2. Its pathology; 3. Its manner of propagation; 4. Its means of control; 5. Its treatment. The origin was still more or less in doubt, but most probably on the Ganges. It first appeared in London in 1669, and in Paris in 1793. In Madras it was endemic, and under certain meteorological conditions became epidemic. In America it is not endemic. It is only communicated from foreign countries. It is not spread by air or ocean currents, but is always brought in infected ships from infected ports. It moves inland only along lines of travel. It never appears in localities absolutely isolated. The comma-bacillus is the practical point of discussion. Is it the cause of cholera? The French Commission in Egypt reported adversely to such an opinion, and Dr. T. Lewis, of Calcutta, states that the so-called comma-bacillus, or something similar to it, is found in the saliva of healthy persons. The crucial test, inoculation and production of the disease, has not been performed. The conditions for the life and growth of the poison outside of the system are: 1. Warmth; 2. Moisture; 3. Decaying organic matter.

Dr. Austin Flint, who was to have opened the discussion, sent a short paper, in which he stated his belief in the specific character of cholera and in the comma-bacillus as the cause. Then, without developing them, he raised the points of the importance of quarantine and other means of prevention of cholera and its control when in progress.

It may be disseminated by air and water, but are there not other means? Do choleraic dejections contain the agent, and is it in those of cholerine? He believed that cholera might be stamped out as in New York, in 1867, where house-to-house inspections were so valuable. It was important to treat the premonitory diarrhœa, to remove filth, and afford good hygienic measures. In therapeutics, which are wide, nothing compares with opium up to the stage of collapse.

Dr. N. S. Davis said that he was a total disbeliever in the idea of importation. He had seen cases develop in the city totally independent of each other, and before any such thing as cholera was thought of. It is one thing to follow the official record and another to be right there yourself. It was in Chicago six weeks before it became known. He had reported a case of cholera nearly two months before the authorities discovered the disease, but his statement had been pigeonholed. In July, 1866, it started in Chicago; a rainy season in August washed the city clean, and the disease died out. In October it became hot and sultry, and it broke out again in the filthiest part of the city. The treatment of cholera is cleanliness.

Dr. Lynch had very little belief in the bacillus as a cause. Dr. Flint deprecates opium in collapse. In cholera nostra, with rice-water discharges, blue, cold surfaces and contracted skin, he uses morphia and atropia with immediate success. He would use it in cholera.

Dr. Jones, of New Orleans, believed in the germ theory as applied to cholera, that it is portable, and depended upon bad sanitation. It came down the river in 1832, and driving out yellow fever, caused six thousand deaths in twenty days.

Dr. Taylor, U. S. Army, thinks the disease contagious, but is doubtful as to the part played by the comma-bacillus. Isolation, in his opinion, is an absolute prevention. Nothing equals opium in the early stages, but it is contraindicated in collapse.

Dr. Whittaker, of Cincinnati, thought the disease imported and a germ disease. No chemical agent increases in the body as does the poison of cholera. Koch did not claim that the comma-bacillus is the cause of cholera; it is present in all cases.

Dr. Jerome Cochrane, of Alabama, read a short paper on

hemorrhagic malarial fever,

and stated some of his conclusions as follows:

1. This form of malarial fever originates only in malarial regions, though it may exhibit itself elsewhere.

2. The poison is the same as that in remittent and intermittent fevers.

3. It may show itself in the following forms: *a*, intermittent; *b*, remittent; *c*, congestive; *d*, quasi-continued.

4. The congestive form is almost necessarily fatal, the prognosis in the remittent and the quasi-continued forms is bad, the intermittent form is less fatal.

5. The negro is comparatively exempt.

6. Only those persons suffering under malarial cachexia are attacked.

7. One attack is not protective.

8. It begins usually in the afternoon or at night with a chill, followed by fever, bilious vomiting, discolored urine, jaundice.

9. The fever, except in the remittent and quasi-continued form, is not usually high.

10. Skin harsh and dry.

11. Bowels constipated, liver torpid.

12. Vomiting, early nausea, matter yellow, green, black, or even blue.

13. The black vomit is usually changed bile and in the beginning of the case.

14. Icterus begins with chill, and deepens rapidly.

15. Characteristic red urine, profuse at first, begins with chill. In fatal cases there is suppression.

16. This red urine is albuminous with granular casts. Color is due to blood-pigment hæmoglobin, not corpuscles.

17. The post-mortem appearances are similar to those of other malarial affections with enlargement of the kidneys added.

Cases reported	642
Deaths	188
Per cent.	24.60

Blood-corpuscles in the urine are accidental. The serum of blisters is colored the same way.

As to treatment:

1. The superabundance of bile renders the use of mercurials of great service. Some physicians use small, frequently repeated doses. Others like large doses—in one instance, a doctor was in the habit of giving 60 to 70 grains at a time.

2. Warm drinks are of service in promoting emesis, to get rid of the large amount of bile thrown into the stomach.

3. Sweating to reduce the harshness of the skin, and promote its action for this purpose, heat to the surface, hot drinks, and occasionally diaphoretics are used.

4. Management of the kidneys is a disputed point. The majority are in favor of letting them alone. Even in suppression of urine, trust to the compensatory action of the bowels and skin.

5. Quinine was formerly looked upon as the sheet-anchor in this affection. It exerts less control here than in any other form of malaria, and is losing gound.

DR. GHENT, of Texas, had treated forty-seven cases with five deaths. He thinks the red color due to blood-corpuscles. He uses calomel first, last, and always.

DR. TAYLOR, U. S. Army, had an experience similar to Dr. Cochrane's. But he had always found micrococci in the blood of these cases, and always blood-corpuscles and albumen in the urine. It is very fatal. Quinine will control the fever to a certain extent, but nothing more. Calomel and bicarbonate of soda in small doses are of great value.

DR. JOS. JONES, of New Orleans, thinks most cases of so-called hemorrhagic malarial fever, or hæmaturia, are really melanuria. The fibrin is increased as in inflammations. There is red matter in the urine in all fevers. In melanuria, in addition to blood-corpuscles, there is also bile, as proved by testing with nitric acid. Serum of a blister is so colored. The origin of this disease is congestion of the kidneys, and the consequent pouring out of blood in the tubuli, just as in congestion of the brain. The rest of the pathology is due to the want of functioning of the kidneys because of this fact. The prime cause is malaria. He is prepared for good effect from calomel, since the pathology includes an increase of fibrin in the blood, but he would not abandon quinine.

SECTION ON OBSTETRICS AND DISEASES OF WOMEN.

TUESDAY, APRIL 28TH.—FIRST DAY.

DR. R. S. SUTTON, of Pittsburg, Chairman, called the Section to order.

DR. WM. H. WATHEN, of Louisville, read a paper on the

TREATMENT OF THE SECUNDINES IN ABORTION AND LABOR,

of which the following is an abstract:

Three methods have been urged: (1) The expectant method; (2) The immediate removal; (3) A course, intermediate. During the first two months of pregnancy no placenta exists, and the egg, together with the decidua, is usually expelled in abortion *en masse*. Even in case of retention of membranes, during this period, no operative interference, of a radical character, should be instituted, as the fœtal envelopes are comparatively innocuous, and the danger from trauma is relatively great. From the third to the end of the seventh month, it is advisable to remove the secundines immediately, irrespective of the condition of the cervix as regards dilatation.

The retained placenta in premature labor, or labor at full term, should always be removed at an early period. If the os is dilated, the fingers or curette suffices; if the os is not dilated, he employs a modification of the steel dilator of Scanzoni. The cervix can be dilated by this means to a width of two and one-half inches, and the secundines can be removed by the finger, curette, or forceps. Instead of the curette, a piece of copper or iron wire properly curved may be used. The separation of amnion from chorion, without rupture of bag of waters, as recently pointed out by Dr. Sawyer, may occur. This is a subject to which text-books do not allude. In the third stage of labor, if the placenta was not spontaneously expelled within thirty minutes, it should be removed. He had no confidence in the Strasburg method of treatment of the third stage. The old method of the application of the *vis a fronte*, by traction on the cord, and Credé's method of the application of the *vis a tergo* by expression, should be combined.

DR. JAMES R. CHADWICK, of Boston, said it was impossible to formulate a universally applicable rule. The treatment during the first two months should be governed by the history of the case. If the woman was a "bleeder," immediate operative interference should be instituted; if she had had previous abortions, it was advisable to temporize. Placental forceps were absolutely worthless; the best instrument for the removal of the secundines, as insisted upon by Dr. Sinclair, of

Boston, was the finger. The finger was also the best dilator.

Dr. Green, of Kentucky, pursued the intermediate course, as illustrated by the history of a case of abortion in the fourth month, with retention of fœtal envelopes.

Dr. Sinclair, of Boston, agreed with Dr. Chadwick that manual dilatation of the cervix is the best method. When the os is contracted, the fibres will usually yield to the finger in from six to eight minutes. He is in favor of immediate removal of the secundines.

Dr. Carroll, of Texas, referred to the fact that the retention of a small shred of decidua or of a clot of blood is sufficient to cause alarming hemorrhage. He would not hesitate to use an Ellinger's dilator in case of non-dilated cervix, but thought the finger a better instrument.

Dr. Wathen closed the discussion by saying that he advised the use of his own modification of Scanzoni's dilator only in extreme cases in which the finger had already been employed without effect.

Dr. W. W. Potter, of Buffalo, N. Y., reported the following case of

PARAMETRIC ABSCESS:

Mrs. B., 38 years old, the mother of three children, experienced sudden pain, 17th March, 1874, in the region of the right ovary, accompanied by nausea. On vaginal examination, the right broad ligament was tender. Temperature 101°; pulse 110. Hot vaginal douche, morphine and atropine hypodermically, quinine per rectum, were suggested. The symptoms continued unabated until the 28th, when she was etherized. An incision was made into the cul-de-sac of Douglas, per vaginam, and three pints of fetid pus liberated; a drainage-tube was inserted. The cavity of the abscess was washed out with antiseptic solutions of the bichloride of mercury and carbolic acid. The condition of the woman continued to be desperate until an emulsion of iodoform was injected, when she began to improve, and was restored to her original condition about May 1st, thirty-three days after the operation.

Dr. Potter called attention to the following points of interest in connection with the case:

1. The rapidity of the formation of the parametric abscess in the non-puerperal state. 2. The rapid closure of the abscess cavity by granulations. 3. The large amount of pus (three pints) evacuated. 4. The beneficial effect of the iodoform emulsion. 5. The possible influence of cotton-root and gin, advised by a friend of the patient, as an etiological factor.

After a careful review of the pathology and etiology of abscess in the pelvic connective tissue, Dr. Potter advised the vaginal operation for the evacuation of pus, the cleansing of the cavity by the curette, as suggested by Byford, when necessary, and subsequent daily irrigation of the abscess cavity by the physician himself.

CHRONIC PERIUTERINE ABSCESS: ITS TREATMENT BY LAPAROTOMY,

was the title of a paper by Dr. Christian Fenger, of Chicago, which in his absence was read for him by Dr. W. W. Jaggard, of Chicago. It was based upon the observation and treatment of three cases of chronic periuterine abscess.

I. Technique of the Operation.—Before making the abdominal incision, the site of the bladder should be marked out by the introduction of a sound. If adhesions have formed between the sac and abdominal wall, the operation is extraperitoneal and simple. Such cases are exceptional. In the majority of cases, when the abscess is lateral or posterior to the uterus, it can be reached only by opening the peritoneal cavity—that is, by laparotomy, for which preparation has always to be made, since it is impossible to make a clear diagnosis beforehand as far as this point is concerned.

When the abdominal cavity has been opened, it is usually possible to come right down on the sac of the abscess. If covered by omentum or intestines, these have to be pushed aside, and all possible adhesions ligated or detached. The upper surface of the sac, together with the uterus and appendices, will generally form a convex, red, smooth, more or less regular tumor, to the side of which, outward toward the brim of the pelvis minor, loops of intestine or omentum generally adhere; as it is not desirable to extirpate the sac, these parts need not be disturbed, if only a surface of two inches in diameter is clear—that is, space to admit of a sufficient opening being made into the sac, and of a sufficient margin round the opening for a double row of sutures to unite the edges with the anterior wall of the abdomen. When the upper surface of the sac is thus clear, or has been cleared, the next step is to find some way into the sac, with due regard to the prevention of the escape of pus into the abdominal cavity. To this end, it is necessary to pack two or three large disinfected sponges around the sides of the cleared space, at the same time preventing any loops of intestine from slipping out through the abdominal incision.

As a soft or fluctuating point on the surface of the tumor, especially when the abscess communicates with the rectum or bladder, or, more rarely, with some remoter part of the intestinal canal, cannot always be found, an exploratory puncture with the needle of a hypodermic syringe has to be made, at the point and in the direction where, from the previous examination, we expect the abscess to be, or where the tumor feels less resistant than in other places. If pus is withdrawn, proving the existence of an abscess, it is advisable to effect as perfect an evacuation of the contained pus as possible. An aspirator should be ready, so that the aspirator needle may be introduced along the needle of the hypodermic syringe, which is left in the cavity as a guide.

The aspirator needle is left in the cavity as a guide for the knife in the incision into the sac. This incision should be made by the thermo-cautery; the small, knife-shaped burner of Paquelin answers the purpose very well. It is well to have a small sponge ready to thrust into the sac as soon as the incision is made, because some pus is likely to flow out as soon as the sac is opened. The edges of the incision are firmly grasped with the large artery forceps of Billroth, and dragged forward to check hemorrhage; sponges, saturated with ten per cent. solution of zinc chloride, may be introduced into the cavity; or, if necessary, the inside of the cavity may be scraped out with the sharp spoon or curette (Byford).

If counter-opening is desired, a strong curved forceps should be pushed down to the bottom of the sac till it can be felt through one of the vaginal cul-de-sacs,

through which an incision is then made, by one of the assistants on the end of the forceps. The forceps is then pushed through the opening, and opened so as to dilate the latter. A heavy drainage-tube is now grasped by the jaws of the forceps and drawn up from the vagina through the sac and out of the abdominal incision.

The next step is then, after carefully cleaning the peritoneal surface of the sac, to unite the latter to the part of the abdominal wound nearest to it by a double row of sutures. Silk is used for sutures. The deeper row, about one-quarter of an inch from the edge of the opening into the sac, and not penetrating the whole thickness of the wall of the latter, unites the peritoneum of the sac with the peritoneum of the anterior wall of the abdomen. These sutures must be sufficiently near to each other (less than one-quarter of an inch apart) to close up the peritoneal cavity hermetically. The outer row of sutures passes through the entire thickness of the abscess wall, along the incision into the sac, and through the whole thickness of the abdominal wound, thus uniting the edge of the skin with the inner wall of the abscess cavity.

The question as to whether or no drainage-tubes should be inserted into the abdominal cavity, depends entirely, as in all other laparotomies, upon the amount of detached adhesions. But in laparotomy for abscesses, it is more desirable not to have a drainage-tube in the abdominal cavity, because of the danger of secondary infection from the fetid abscess cavity through the abdominal drainage-tube, as it is practically impossible to effect a perfect seclusion between the abdominal tube and the tube leading into the abscess. Such a necessity may, however, arise, and then the best course possible under the circumstances is to be pursued.

Heavy antiseptic dressings should be applied over the abdomen, and also an intra- and extra-vaginal dressing sufficient to cover the drainage-tube in the vagina. Iodoform is especially valuable when communication with the rectum makes it possible that feces will come into contact with the abdominal wound. The dressing should be changed at least once a day, and the sac washed out with an antiseptic solution; a saturated solution of boracic acid is preferable, as there is then no danger of poisoning.

The question as to the safety of performing the whole operation at one sitting, in opposition to the method of Volkmann in the treatment of abscesses of the liver (union of the surface of the sac with the anterior abdominal wall, before the sac is opened), will depend, to a certain extent, upon the skill of the operator. Lawson Tait's record of thirty operations, each at one sitting, without a single accident, may be considered as a definite answer.

A tangible difference between a periuterine abscess and an abscess in the liver exists. The liver participates in the respiratory movements; the periuterine abscess does not. The wall of an abscess of the liver is friable, and furnishes a very insecure substratum for the application of sutures, while the walls of the periuterine abscess are thick and solid.

Regarding effective drainage of a periuterine abscess, the counter-opening through the vagina appears inexpedient from the experience of Lawson Tait and the reader of the paper. If, in the course of the after-treatment, rise in temperature and the accumulation of pus in the lower part of the sac should demand it, a counter-opening in the vagina can be made.

II. Laparotomy as Compared with other Operations.—The value of the operation of laparotomy was compared in detail, with Schroeder's vaginal operation in cases in which the circumuterine abscess does not point downward, and, in fact, does not point anywhere. After a careful discussion of the advantages and disadvantages of both methods, the author of the paper was very decidedly of the opinion, advanced by Lawson Tait, that in circumuterine abscesses, which can only be reached from vagina or suprapubic region, laparotomy is the operation of election.

III. Points in Diagnosis.—Bandl is hardly correct when he states (Die Krankheiten der Tuben und die extrauterin Schwangerschaft) that the diagnosis of suppuration and formation of abscess in the pelvis is generally not difficult because they are indicated by increase of evening fever, rigors, and nightsweats. The author has twice observed cases in which, without fever, rigors, or nightsweats, more than one pint of pus was present. Exploratory puncture through the vagina, by means of a fine aspirator needle, while not entirely harmless as insisted on by Dr. Emmet, gives reliable information, and is comparatively safe.

Exploratory laparotomy is preferable to suprapubic exploratory puncture. The escape of one drop of pus into the peritoneal cavity may be sufficient to start up a general acute peritonitis. Especially is this means of diagnosis advisable when a suprapubic tumor is recognizable.

In the author's three cases the abscess had ruptured into the rectum, and the diagnosis was simple.

It is dangerous to wait too long in cases of suspected periuterine abscess on account of the danger of amyloid nephritis. In conclusion, the author paid a compliment to Lawson Tait, the first advocate of free laparotomy in cases of this kind.

Dr. Engelmann, of St. Louis, thought that Dr. Emmet very correctly laid stress upon the fact that inflammations of the pelvic connective tissue were not confined to the puerperal state. As regards operative procedure, laparotomy ought to be the *last* resort, but not a *late* one. It is frequently impossible to make a diagnosis before the exploratory incision is made. He had lost one case from septicæmia in his earlier practice as the result of the imperfect *technique* of the operation.

Dr. Gordon, of Portland, Me., thought that in from one-half to two-thirds of all cases of pelvic cellulitis the physician is responsible for the production of the condition. The introduction of the uterine sound, application of iodine, nitrate of silver, and carbolic acid to the endometrium were apt to injure the genital structures if not carefully performed. Prophylaxis was more important than cure.

Dr. Reed, of Ohio, thought Dr. Gordon's statement entirely too sweeping. He narrated the histories of three cases occurring in his own practice; two died; one made an incomplete recovery.

Dr. Quimby, of New Jersey, had one case in which the diagnosis was obscure. Dr. Gordon Buck's operation—incision from anterior superior spinal process of ilium to Poupart's ligament, introduction of finger under the ligament, introduction of pledget of lint—was performed, and the patient recovered.

DR. CARROLL, of Texas, desired to enter a protest against Dr. Gordon's etiology of pelvic abscess; it may be so in Maine, it is not the case in Texas.

DR. W. W. JAGGARD, of Chicago, referred to Dr. Byford's criticism of Dr. Fenger's operation. When an abscess discharges through the rectum it is usually possible to dilate this orifice so as to secure free drainage. The communication between abscess and bowel could be dilated with the finger or cut. Schroeder has operated successfully in cases of chronic periuterine abscess, after perforation of the bladder, by the high section.

DR. SUTTON, of Pittsburg, closed the discussion. He had recently performed laparotomy for pelvic abscess, and the patient recovered. In cases in which the walls of the cavity cannot be united to the anterior wall of the abdomen, it is advisable, after evacuation and scraping of interior, to fill with iodoform and close. As regards the diagnosis, if no dull space exists above the symphysis always try aspirator needle.

DR. GEORGE F. FRENCH, of Minneapolis, read a paper entitled

HOW SOON AFTER EXPOSURE TO SEPSIS MAY THE ACCOUCHEUR RESUME PRACTICE?

The term puerperal fever embraces a group of essentially diverse affections, some of which are non-contagious; but the septicæmic variety of the disease is that which alone engages us in this discussion, and he expressed the belief that the evidence that this fever is caused by the contagia of erysipelas, scarlet fever, and septic dirt, is as demonstrable as any proposition of Euclid. In order to obtain all possible light on the duty of the practitioner to the obstetric patient, he addressed, in October last, letters of inquiry to some of the most distinguished medical men in this country and in Europe, of which the following is the substance:

"How soon after exposure to sepsis, may the accoucheur safely resume practice? My purpose is to controvert the opinion which obtains in the profession, that time is an essential element in the cleansing process. I have had an experience which emboldens me to make abdominal section on the day following exposure. I greatly desire to know whether your own experience warrants me in pursuing such a course."

In reply, Thornton, Savage, and Hegar write that they believe time is essential—to be accompanied, of course, with careful cleansing. While Emmet, Battey, Marcy, Goodell, and Thomas in our own country, with Martin, Schroeder, Nussbaum, Volkmann, and Esmarch in Europe, write that they believe time to be entirely non-essential and that thorough disinfection can be at once accomplished. The present weight of evidence goes to show that the materies morbi of contagion is a non-gaseous particle, capable of being acted upon and demonstrably susceptible of destruction. Some kinds of contagia have been isolated and their property of self-multiplication demonstrated. It has been exactly determined how such contagia are affected by different agents. The presence of other contagia is inferred from analogous diseased conditions and by disinfecting the supposed source of this latter contagion the morbid effects have been interrupted. Experiments show that the resting spores of the bacilli, the most difficult to destroy of all forms of life, can be killed by a corrosive sublimate solution 1:5000.

Fermentation and putrefaction occur only when the specific germ lives—and filth undergoing fermentative change is most conducive to the spread of infectious diseases. Particles of contagia most frequently find lodgement on our hands and particularly under the finger-nails. It is always possible after the ordinary use of a nail-brush or knife, to remove particles of dirt in which the microscope reveals living germs of possible infection. On this account he cuts his nails short and swab under them with a blunt instrument covered with cloth and wet with some disinfecting liquid. He formerly used for this purpose 5 per cent. carbolic acid, but this made the flesh crack—so he now uses instead corrosive sublimate solution 1:2000. For hang-nails, cracks, and abrasions he uses collodion.

All instruments are kept scrupulously clean as well as disinfected, and the nurse is regarded as one of the instruments. The June number of the *Centralblatt für Chirurgie*, of 1880, contains a most impressive contribution to this subject by Volkmann. In his letter to me, dated Halle, Dec. 5, 1884, he says: "I hold the same views to-day as at that time. A surgeon who disinfects himself well, can, immediately after making a post-mortem, undertake any operation known to surgery. Every morning from six to eight during the summer I am obliged to give the students operations on the cadaver; and from ten to three I am busy in the hospital, operating, and dressing wounds. I have never yet infected a patient. In the winter I have no operations on the cadaver. Comparing my results in the clinic, I can assure you that the mortality in summer is not greater than in winter."

To show his confidence in the possibility of absolute disinfection, he made the following experiments.

June 21, 1884, after laying open a dissecting abscess of the thigh in a pyæmic patient, and stripping the limb with both hands till they were offensively drenched with the pus, he carefully disinfected himself, and three hours later attended Mrs. M. in confinement.

July 22, in dealing with a case of pyonephrosis, before penetrating the kidney he came upon a foul perinephritic abscess. Passing through this the kidney was incised, explored, and its grumous contents scooped out with the finger. The hand was so long engaged in this work, that a more complete purulent saturation could hardly be conceived. In the afternoon of the same day he confined the wife of a physician, having stated to him the full extent of his morning exposure. In both cases the convalescence was perfectly normal.

Feb. 11, 1885, he purposely infected his index finger with the ichor of an erysipelatous case and after a corrosive sublimate washing, inserted it in a fresh wound from which he had just excised a tumor. He might multiply instances of this kind. The following characteristic letter, received from Prof. Esmarch, epitomizes the subject under discussion.

"If you have thoroughly disinfected yourself, you can immediately enter upon obstetric practice. Time does not destroy septic dirt."

DR. S. PAINE, of Texas, reported

AN INTERESTING CASE OF SUBSEROUS FIBROID TUMOR OF THE UTERUS.

The patient, white, forty-three years old, native of Louisiana, began to have pains in the abdomen and

pelvis about two years ago; menorrhagia and leucorrhœa. A tumor was demonstrable, which grew so rapidly that all the abdominal viscera were encroached upon, and respiration was interfered with. The diagnosis of subserous fibroid tumor of the uterus was made. Squibb's aqueous extract of ergot, rubbed up in glycerine and water, was exhibited in large quantities, through one year, hypodermatically, with the effect of causing almost entire disappearance of the swelling. As much as ten grains, three times daily, were exhibited. No tendency to spasms, gangrene, or other expression of ergotism, was observed. The cardiac rhythm was slowed.

DR. NELSON, of Chicago, thought that Dr. Paine's case could be multiplied. Before the formation of omental adhesions ergot will, in many cases, control the growth of the tumor. The great mistake in the exhibition of ergot is that it is generally given in too small doses through too short a period of time.

WEDNESDAY, APRIL 29TH.—SECOND DAY.

DR. R. J. NUNN, of Savannah, Ga., read a paper on

THE MULTIPLE SPECULUM UTERI, AND AN IMPROVED DRESSING FORCEPS.

The speculum is of the antero-posterior bivalve variety, like Cusco's; it has the extension motion of Graves's, and, like it, can be reversed for a Sims's. The upper blade consists of two superposed leaves capable of lateral motion. Two lock-nuts fix this blade immovably in any position when such fixation is desirable, as when using the instrument as a Sims's. The arrangement of parts adopted gives great powers of expansion and self-retention.

The dressing forceps has a downward and backward curve in the direction in which the jaws open. It has a spring catch, forming a useful polypus forceps, etc., and between the pivot and the jaws the shank of the forceps is formed into a scissors.

DR. S. M. HEALEY, of Cumberland, Md., then described

A NEW SPECULUM AND A NEW VAGINAL IRRIGATOR.

The speculum is a self-retaining Sims's speculum; it is secured *in situ* by a sacral pad, with bands of steel, connected together by ball-and-socket joint. The instrument was applied to a patient in the presence of the members of the Section.

The vaginal irrigator is a long, conical, corrugated glass tube, with a rubber diaphragm, containing two perforations for the insertion of a delivery and an escape tube.

DR. GEO. J. ENGELMANN, of St. Louis, read a paper on

THE IMPROVED TECHNIQUE IN GYNECOLOGICAL OPERATIONS, MINOR AND MAJOR.

He called attention to the various models of Simon's specula, as more efficient instruments for operation in the lithotomy position than the instrument of Sims. He employs continuous irrigation with hot water, 115°–125° F., during all his operations. He uses semicircular needles and strong silk thread, which has been disinfected. The operative *technique*, thus briefly sketched, has received no mention in any American text-book. Dr. Engelmann claims the following advantages for this method:

1. Cleanliness, or asepsis. 2. Field of operation is clear. 3. Rapidity of operation. 4. Hot water acts as an efficient hæmostatic.

The irrigation with hot water is an idea of his own, and he has used it for seven or eight years. The method of operating, with the exception of the hot water, is that extensively practised in Europe.

DR. HENRY O. MARCY, of Boston, read a paper on

THE "ROLE" OF BACTERIA IN PARTURITION,

the underlying thought of which was that normal labor is a physiological process and as such aseptic, hence antiseptic injections are unnecessary, and, beyond the securing of cleanliness, meddlesome and dangerous. When the labor departs from the normal character, then new factors are introduced. In instrumental labors, and where the hand is introduced into the cavity of the uterus, exposures are of necessity not unlike those incidental to any surgical operative procedure. The uterus in most labors is subject to lesions where infection may easily be superinduced and when thus infected, Dr. Marcy showed that the puerperal state made most favorable conditions for rapid development of microörganisms, a favorable soil for growing most dangerous seed. He laid the utmost emphasis upon the use of all antiseptic precautions, and urged precisely the same thoughtful attention to all details as in a major surgical operation.

DR. HEALEY, of Maryland, held that sepsis occurs in every labor, and milk fever was evidence of the fact.

DR. GORDON, of Maine, said that he did not believe in antisepsis, but he did believe in cleanliness. Lister had recently lost two cases from septicæmia. Cases of poisoning from carbolic acid and the bichloride of mercury had been recently reported. He was known as the hot-water surgeon, on account of the frequent employment of large quantities of that agent. He had no objections to hot vaginal injections after parturition, on general principles; he did object to medicated solutions.

DR. ALEX. J. STONE, of Minnesota, thought that Dr. Marcy misrepresented Dr. Thomas in the statement with reference to the sites of purulent resorption. The placental area, the cervix, and the vulvo-vaginal canal were the regions through which the resorption of pus usually occurs. Extensive lacerations of the cervix occur quite as frequently among multiparæ as in primiparæ.

DR. HUNTER, of Minnesota, closed the discussion by saying that it was too late, at the present day, to appeal to the *vis medicatrix naturæ*. The experiments in the cultivation of germs, and the clinical observations in Vienna, Prague, Berlin, and other large cities, established the prophylactic value of antiseptic injections beyond peradventure of doubt.

DR. A. REEVES JACKSON, of Chicago, read a paper entitled

VAGINAL HYSTERECTOMY FOR CANCER.

A surgical procedure, to be beneficial, should relieve suffering and prolong life. If it fail to effect either of these results, it is useless. If it destroy more lives than it saves, it is injurious, and should be abandoned.

A table based upon 256 cases of vaginal hysterectomy, compiled by Dr. P. F. Mundé, showed a mortality of only 24.6 per cent.; while the results of the operations

performed by Martin, Schroeder, and Ohlshausen, *all of whose cases are published*, show a much higher rate of mortality, namely, 38.6 per cent. in 101 operations. This discrepancy is explainable by the fact that such tables as that of Dr. Mundé are based upon incomplete returns—the successful cases being published, and the unsuccessful ones suppressed. Figures will not lie if they have a fair chance. If the whole truth in relation to this matter were known, the mortality of the operation would be found much greater than it now appears. Taking even the foregoing most favorable report, vaginal hysterectomy has actually destroyed nearly one hundred years of life. If all the cases were published, the amount of destruction would appear much greater. There is nothing to offset this. It has yet to be shown that a single life, otherwise doomed by the disease, has been saved by the operation. The history of the operation does not afford ground for hope that improved methods in its performance will materially better the results. Schroeder's greatest success was obtained in his first 8 cases, with a mortality of 8.7 per cent.

The dangerous character of the operation is not the gravest charge against it; it does not benefit those who recover. The disease recurs in all, sooner or later, and their sufferings, which have at best only been interrupted, are as severe as before. In short, the patients gain nothing, and die, on the average, sooner than if let alone.

Of all the methods of treatment which have been used for uterine cancer, hysterectomy has given the worst results, both immediate and remote; and the statistics seem to show that it has killed more rapidly than the disease itself.

Schroeder, Mundé, and others think that vaginal hysterectomy should be restricted to cases in which the cancer is limited to the cervical mucous membrane, or to the body of the uterus. These limitations are proper, but impracticable. It is impossible, in the present state of our art, to make the subtle diagnostic distinctions which they imply. There are no means by which the extent of cancerous involvement can be known in any given case. The unreliability of Schroeder's method by digital touch alone, is shown clearly by the rapid and numerous recurrences of the disease which have followed his own operations.

When cancer affects the cervix uteri, extirpation is improper because unnecessary. Supravaginal amputation, with a mortality only one-fourth as great, does all that can be done by total removal.

The diagnosis of cancer of this body is always difficult, and frequently impossible in the only stage in which extirpation can be proper or useful. Here, too, the disease is of much longer duration and less painful than when it attacks the cervix, so that a highly perilous operation is not justifiable. The so-called "palliative" operations are not only less fatal in all forms and locations of the disease, but more lasting in their good results than the "radical" operations.

Conclusions: 1. Any operation for cancer which does not completely remove the disease will be followed by recurrence.

2. During life the diagnosis of the extent of cancerous disease originating in any part of the uterus is at present impossible, hence no operative procedure can afford a guarantee of complete removal.

3. In view of this necessary doubt, no operation is justifiable which greatly endangers life, provided other and safer methods of treatment are available.

4. Vaginal hysterectomy has sacrificed the lives of more than one-third of those who have been subjected to it, the mortality of the operation when done by those of greatest skill and experience being over thirty-six per cent.

5. Other methods of treatment, attended by not more than from one-sixth to one-fourth the mortality of vaginal extirpation are equally efficient in ameliorating the symptoms and retarding the progress of the disease, and these have been followed by as good or better ultimate results. Hence they should be preferred.

6. Hysterectomy does not avert or lessen suffering; it destroys and does not save life. It is, therefore, not a useful but an injurious operation, and being such, it is unjustifiable, and ought to be abandoned.

Thursday, April 30th.—Third Day.

Dr. W. W. Jaggard, of Chicago, read a paper on

the ring of bandl.

Conflicting views as to the changes which occur in the cervix uteri during pregnancy and labor have been urged from the latter part of the eighteenth century up to the present day.

The object of the paper was to sketch very briefly the outlines of our knowledge upon this important subject, especially since the views of Bandl have been grossly misrepresented. The old theory, of Roederer and Stein, Sr., displaced by the doctrine of Stoltz, in 1826, is coming to the front again, as the result more particularly of the anatomical studies of Braune and the researches of Bandl. Bandl's doctrine is substantially that promulgated by Carl Braun, in 1857. Professor Sales, in 1869, 1874, and 1877, approximates the position of Braun, Braune, and Bandl.

It is inconceivable that the little, thin-walled, nipple-like process, the cervix of Müller, could be so distended as to receive the entire head of the child, as shown in Braune's drawing, and still be capable of functional activity. If this proposition is regarded as demonstrated, the greater part of the cervix, as shown in Braune's drawing, must have been filled out by the egg during pregnancy, and the cervix of Müller must play a very insignificant rôle. The cervix of Müller forms a part, from two-fifths to one and one-fifth inch long, from the os externum upwards, of the cervix of Braune. The cervix, as shown by Braune's drawing, is the lower segment of the uterus of the older observers, plus the little tube described by Müller. After a careful review of recent evidence upon the topic, Dr. Jaggard said that it is impossible, in the present state of our knowledge, to assert dogmatically that the ring of Bandl and the anatomical internal os are identical, but that the weight of probable evidence, at present at our command, is very decidedly in favor of such a view.

Dr. Gustav Zinke, of Cincinnati, then read a paper on

Emmet's operation: when shall it and when shall it not be performed?

He summarized his conclusions as follows:

1. It is evident that the operation has been performed unnecessarily for symptoms similar to but other than

those arising from lacerations of the cervix. Further, that it has been done imperfectly, even without preliminary treatment, in many more; and the failure to give relief, as reported by several, is due to these two causes.

2. That from our present knowledge we cannot, at this time, arrive at any definite conclusion, from the fact that many of the so-called consequences of lacerations of the cervix uteri are not settled beyond doubt.

3. That every one engaged in this department should carefully select his cases, and try every known means to give relief before resource is had to operation.

4. The operation should never be performed *eo ipso* in cases of simple fissures or lacerations of first and second degree.

5. In cases of eversion and disease of the cervical or corporeal cavity, or both, although attended by hyperplasia and displacement, it has been observed that all the symptoms abated and the parts returned to their natural condition, and that no laceration was discoverable after alleviative measures were instituted first, which alone caused the parts to return to a normal condition.

6. There are some cases of extensive lacerations of cervix that seldom give rise to any inconvenience, and that, therefore, an operation should be deferred until symptoms arise that will call for its performance.

7. The operation, although indicated, should never be performed until, by preparatory treatment, the parts have been brought into a healthy condition.

8. Near, and during, the climacteric period the operation should be postponed as long as possible, and the patient not exposed to any risks, since in many cases all the symptoms subside under proper treatment, and never return on account of senile involution.

9. The operation is justifiable in cases of lacerations of the third and fourth degree, without complications, if there is a history of malignant disease in the family.

10. The operation may be performed with perfect propriety in young women, as a preventive, if the laceration is bilateral and extends up to the cervico-vaginal junction, or beyond it, even though there are no pathological changes; indeed, it seems to be the duty of every one who observes a lesion to that extent, to urge the operation.

11. The operation is justifiable in any degree of laceration, and in rare instances even in fissures, when there exist cicatricial tissues, productive of reflex disturbances, annoying in character, and not tractable to any other treatment.

12. The operation is absolutely indicated in all extensive tears of the os, in which the cervix is everted, its mucous membrane and Nabothian follicles diseased, and especially if there be granular or cystic degeneration present, provided, the parts have first been restored to a healthy condition by palliative treatment.

DR. HARVEY, of Indiana, said there was frequently very much less pain in extensive than slight laceration. When there is extensive eversion, the parts are covered in time with cicatricial tissue, and are relatively non-sensitive. When a fissure exists in the cervix, it is productive of much the same reflex symptoms as a fissure *in ano*. Moreover, while upon a cursory examination, the laceration may be apparently slight, if the lips are everted it will be found that the laceration has taken on larger proportions higher up. For these cases of slight lacerations—fissures, so to speak—cauterization and deep incision will not suffice; they require Emmet's operation.

DR. WATHEN, of Kentucky, said each case must be an individuality. The preparatory treatment is the best test as to the urgency of the indication for operation. Some cases do not require operation; such cases are cured by the preparatory treatment.

DR. GORDON, of Maine, said that Emmet had made the remark over and over again that epithelioma of the cervix had never occurred in any of the cases coming under his observation without an antecedent laceration. But, although admitting laceration to be a potent factor in the production of cancer, he did not advise closure of the laceration in every case, irrespective of its condition. Dr. Emmet was clearly inconsistent. Dr. Gordon had operated 225 times, with 1 death. He agreed with Dr. Harvey in his remarks. Dr. Gordon does not believe in such long preparatory treatment; as said by Peaslee, chronic inflammation is a misnomer. Inflammation is a process rarely lasting over seven or eight days; subsequently, there exist the products of inflammation merely—*i. e.*, chronic congestion. He had treated successfully cases refused admission at the Woman's Hospital of New York, because there was too much inflammation.

DR. KING, of Missouri, thought there was greater danger of the development of cancer in case of slight lacerations than in larger ones.

DR. CARSTENS, of Detroit, thought that all lacerations should be operated upon. An ulcer on either lip of the buccal orifice is excised if it does not heal spontaneously; the same line of reasoning ought to apply to lacerations of the cervix.

DR. BATTEY, of Georgia, was never impressed with the opposite character of the argument which would unite laceration of the cervix and epithelioma as cause and effect: with equal force, labor itself might be urged as a factor in cancer. He had seen extensive lacerations cured by local treatment.

DR. SUTTON, of Pennsylvania, said that he had operated in cases of lacerated cervix merely to satisfy the patient. Epithelioma occurred in the cervices of virgins; he had seen numerous cases of this kind in Marten's clinic at Berlin.

DR. S. C. GORDON, of Portland, Maine, read a paper entitled

REASONS FOR AND RESULTS OF SOME CASES OF TAIT'S OPERATION.

At the last International Medical Congress, Sir Spencer Wells, in commenting upon a paper presented by Koeberle, of Strasburg, said: "As to castration of women for nervous diseases, we might just as well go about the country cupping men for similar diseases as to do what is being done, in removing ovaries of women." In reply to Dr. Gordon's direct question, he said, "I believe that in no case should the ovaries of a woman be removed unless we can demonstrate beyond all doubt that there is actual disease." In reply to the question, "Do you mean by demonstration only that which can be made by touch?" he said, "Yes, most emphatically." Dr. Gordon then related detailed histories of several cases in which one or both ovaries or

tubes had been removed. Improvement of all symptoms was observed in each case and in some of them a radical cure was effected. Dr. Gordon concludes that a close analysis of subjective symptoms, through a long period of time, is frequently adequate to establish the diagnosis of disease of ovaries and tubes, and indicate operation when absolutely nothing of a positive character can be ascertained by physical exploration. Sir Spencer Wells's well-known aversion to Mr. Lawson Tait probably influences his judgment to an undue degree. Some of these subjective signs are premenstrual pain, irregularity of menstrual function, alternate pallor and flushing of face, an extraordinary mahogany-bronze color of the complexion resembling that of Addison's disease. Dr. Gordon observes no antiseptic precautions. He is clean, and uses hot water.

Dr. B. E. Hadra, of San Antonio, Texas, presented a paper entitled

INTRAPERITONEAL ADHESIONS CONSIDERED IN RELATION TO BATTEY'S AND TAIT'S OPERATION.

He concludes from the detailed consideration of four cases, taken as types, that intraperitoneal adhesions may exist high up in the abdominal cavity, between various portions of the intestines, and that in all cases of abdominal section, after examination of the uterus and annexa, the hand should be made to search for such adhesions.

Dr. Battey, of Georgia, thought that any aversion to Lawson Tait upon the part of Sir Spencer Wells would not influence his judgment. Both Sir Spencer Wells and Mathews Duncan had told him in London, a few months since, that the scope of Battey's or Tait's operation is limited; the former operator had seen but two cases, the latter but one case, in which the operation was deemed expedient.

It is necessary, in estimating the results of the operation, to allow a sufficient interval of time to elapse. The immediate effect is always favorable. Almost any operation which draws blood will do the patient, if she is a woman, good. But then there comes a reaction, and she feels the improvement is imaginary. Cheer her up. Wait for the expiration of one and a half to two years before reporting your cases. The results of the operation are uniformly favorable.

With reference to the introduction of the hand to search for adhesions, as suggested by Dr. Hadra, he had little doubt that some good is effected. But this may arise from (1) traumatism, (2) imagination, (3) the actual severing of incarcerating bands. These bands, however, may form again.

Dr. Sutton, of Pennsylvania, called attention to the importance of always telling the patient that merely an exploratory incision is to be made, and then of being prepared for any emergency that may arise.

Dr. Harvey, of Indiana, called attention to the influence of Battey's and Tait's operation in causing involution upon chronic hypertrophy or hyperplasia of the cervix, and indeed of the *corpus uteri*.

Dr. Wathen, of Kentucky, thought that the line of diagnosis advocated by Dr. Gordon is pernicious in its tendencies. Objective diagnosis is more reliable, although it must not be relied upon exclusively.

Adjourned.

AMERICAN SURGICAL ASSOCIATION.

Sixth Annual Session held in Washington, D. C., April 21, 22, 23, 24, 1885.

(Specially reported for The Medical News.)

Friday, April 24th.—Morning Session.

First in the order of exercises was the discussion of the paper of Dr. Senn, entitled

AN EXPERIMENTAL AND CLINICAL STUDY OF AIR EMBOLISM.

Dr. J. Collins Warren spoke in strong terms of admiration for the labors of the author, and particularly upon a subject of so great importance as that of air embolism. He, however, thought the subject of greater importance in a practical sense to the obstetrician than to the surgeon. With regard to the cause of death, various theories have been advanced in addition to that adopted by Dr. Senn, but he thought it sufficiently explained by calling it an inflation of the right side of the heart. The phenomenon has been compared to fat emboli, and the cause of death attributed to the action of the air in the capillaries of the lungs. The comparison is not a proper one, however, because we may have the lungs well filled with fat emboli with very little disturbance to the circulation. One lung may be almost filled with an exudation, as in pneumonia, without producing the death of the individual. But when the heart has in its cavities a substance like air, which it is unable either to compress or expel, it must immediately become exhausted. A large amount of air may be introduced into the circulation if it be done slowly so as to allow it to form a froth with the blood. He had once opened a vein while operating upon the neck, and had distinctly heard the hissing sound of air entering the vein, but no evil symptoms followed. The danger is greater when a large vein or sinus is opened and a larger amount of air permitted to enter in a short time. In operating in the axilla, he had noticed a sound made simply by the suction of air into the loose cellular tissue of the region, which so closely simulated the sound of air entering a vein that he was at first confused. Speaking of the erect posture as favoring the entrance of air, he recognized the authority for such a suggestion, but thought a much more plausible cause is the tension of the respiratory muscles produced when the patient experiences pain and takes a sudden deep respiration. As an illustration of the ease and rapidity with which air may be forced into the circulation, he cited the case of a woman who applied to an abortionist in Boston. An instrument was introduced into the uterus and air pumped through it, causing death in fifteen minutes. The autopsy revealed the right side of the heart full of air. Air was also found in the capillaries of the lungs as well as in the capillaries of the general arterial system. In such a case the air is very readily drawn into the enlarged uterine sinuses by the ordinary movements of respiration.

Dr. Gordon, of Portland, Maine, reported a case in which air was introduced into the circulation in the operation of aspirating a pelvic abscess. Before coming under his care, the abscess had been twice aspirated without the discovery of pus. He, however,

succeeded in withdrawing a large amount of pus at the first aspiration, and repeated the operation a week after, with the same result. The aspirator that he used was one with a bottle attached to act as an exhaust-chamber, capable, as he remarked, of killing at either end. The bottle could be either filled or emptied according to the direction in which the stopcock was turned. When the third aspiration was about to be made, the operator was assisted by a young and inexperienced resident physician, who attended to the preparation of the instrument. Instead of exhausting the chamber, he had charged it with air. After the introduction of the needle, the stop was turned; the woman instantly gave a scream, put her hand over the region of the heart, and in a minute was dead. Just what occurred, it was impossible to tell, no autopsy being permitted. It was probable, however, that the cavity of the abscess having been previously nearly exhausted, the enlarged veins of the vicinity had been left with their mouths nearly or quite open, so that with the great pressure the air was forced into them. From the rapidity with which death was produced in this case, he concluded that preventive treatment is, in the human subject at least, better than curative, for it would have been impossible to have taken any measure for the restoration of this patient. Again, complete anæsthesia renders the accident less likely to occur, inasmuch as it quiets respiration to such an extent that the aspiratory force is much diminished.

Dr. C. B. Nancrede expressed his admiration for the work of Dr. Senn, and regretted that he had nothing new to offer on this important, but much neglected, subject.

The subject of air embolism is an old one. It was first recorded, however, by Duchenne. The elder Larrey had noticed it several times on the field of battle, from sabre-wounds of the neck. With regard to experiments, it should always be remembered that animals are not human beings. This statement was made without prejudice against experimental investigations, and only in the belief that in some animals death occurs with much greater certainty than in others. The horse was one of the least likely to be killed by air embolism, because of the large size of its pulmonary capillaries. It is an interesting fact, in this connection, that the same quantity of water, if introduced into the circulation, will cause almost as severe symptoms, although these are more likely to pass off after a short time. Again, in the experiments of Dr. Senn and others a much larger quantity of air was introduced than could possibly enter during an operation, hence the results could hardly be compared. Death from a small amount of air is not due, he thought, to paralysis of the heart, but to obstruction of the pulmonary circulation. If, however, a large quantity of air gains entrance to the heart, it is churned back and forth from auricle to ventricle, and does not pass into the general circulation, hence aspiration of the heart cavities may be of benefit in removing the spumous blood. Tension of muscles is capable of holding the mouths of veins open to a greater extent than the tension of fascia, as is the case with the platysma in the neck. A case was then reported of sudden death from air embolism following amputation. The stump had sloughed and gas had developed under the dressing, giving an easy means of its entrance to the circulation. This he considered a mode of death not always recognized. As remarked by the last speaker, the preventive treatment of these cases is of much more importance and more likely to be successful than the remedial, simply because we cannot always be present when the accident occurs, or, if present, it requires some minutes to get an aspirator ready for use. In operations about the axilla or neck, the greatest care should be taken to prevent the entrance of air into the divided vessels.

Should air have entered, what can be done? Experience has shown that if the patient can be kept alive for a short time by artificial respiration, he is likely to recover, and artificial respiration will cause a disappearance of most of the dangerous symptoms. This can be practised in all cases, and it is the most convenient method we have. It should be practised with the patient in the recumbent posture, the head low and the limbs slightly elevated. Where the accident occurs during an operation, the vein should, if possible, be tied; but if this cannot be readily done, a spongeful of water should be squeezed into the wound, and the cardiac action maintained by stimulants. Another remedy of value is the hypodermic injection of atropia, because of its power of enlarging the pulmonary capillaries. In one case he thought the patient had been saved for six days by the administration of this remedy. Patients who have recovered from the accident, however, have all shown symptoms of secondary pneumonia, which has to be treated on the same principles as an ordinary case of pneumonia.

Dr. P. S. Conner, of Cincinnati, then read a paper on

THE ETIOLOGY OF TRAUMATIC TETANUS.

In it were reviewed the various theories that have been advocated as to the cause of the disease, and the leading arguments for and against them. The opinions expressed were mostly conservative, but favor was expressed for the humoral theory.

In conclusion the essayist said, it can only be assumed that it is in the secretion of the wound that the irritant is developed. The idiopathic cases are those the explanation of which is the most difficult upon this or indeed upon any theory. There is abundant material for the chemical development of the poison both in the fluids that are poured out and in the decomposition of the tissues. Even in a physiological fluid—urine—Gautier was able to find a ptomaine capable of tetanizing animals. Does not the danger of a punctured wound of the hand or foot lie in the pent-up fluids rather than in the nerve injury, and should not the pus, the pieces of clothing, the bits of wool, that have been found in some of the reported cases, and not the lacerated nerve-fibres, be considered as the exciting causes? The veins and lymphatics of the nerve themselves may readily be the channels through which the morbific matter may be carried in, and the anatomical fact that a relation exists between the sensibility of a nerve and the number and closeness of its associated lymphatics may go far in explaining why tetanus is so frequently associated with slight wounds of parts endowed with high sensibility, as the fingers and toes.

Is it not then from very careful chemical and microscopic examinations that we may hope to receive the information we desire upon this obscure affection?

Will it prove to be a peculiar toxic material developed in the breaking-down, dying, and dead tissues, or a specific organism that will allay tetanus with anthrax, erysipelas, and septicæmia, an organism entering at the open wound or carried in with the vulnerating body. Whatever it may prove to be, if it is discovered at all, we shall hear no more of hypothetical personal predispositions, or parts of least resistance, and the treatment will be directed either towards preventing the entrance of the microörganism or the sustaining and quieting of the patient until such time as the one shall be eliminated or the other have completed its life-history.

(This paper will be published in full in an early number of The Medical News).

Dr. E. M. Moore asked the author's opinion with regard to the remarkable prevalence of tetanus a few years ago among boys who used the toy pistol, and whether he thought it due to a peculiar chemical effect of the fulminate upon the tissues.

Dr. Conner replied that nothing, so far as he was aware, had been given that throws any light upon the subject. All the cases that he had seen from this cause were cases in which there was a considerable amount of contusion and laceration, the wad lodged, and the fluids pent up. In other words, they were cases which lent strength to the humoral theory. In the only case which he was called upon to treat, the injured member was kept constantly under hot water for forty-eight hours and no tetanus had developed.

Dr. Nancrede called attention to the fact that a difference of locality amounting to but a few miles made a great difference in the prevalence of the disease, as had been recently stated by a New York writer. At one point on Long Island the disease is of comparative frequent occurrence, while at a place but a few miles distant it is practically unknown under any circumstances. This could be best explained, he thought, by reference to the humoral theory.

Dr. T. F. Prewitt did not consider the experiments of Arloing and Trippier, referred to in the paper, as bearing any evidence against the humoral theory inasmuch as the blood from a horse suffering from tetanus would have to be injected into the blood of another in very large quantity to produce the disease, as would be the case in poisoning by strychnia.

Dr. J. Ewing Mears reported a case in which tetanus had developed after amputation of the arm. Post-mortem examination showed that it was due to the inclusion of the median nerve in a ligature. He further expressed surprise at the rarity of the disease as a result of wounds of the hand and foot in the late war.

Dr. J. R. Weist remarked that there was a discrepancy in the statement that tetanus had not occurred as a result of wounds of the hand during the war, as he had observed one case that followed a gunshot wound of the finger, coming on within twenty-four hours after amputation had been performed. During the last year he had seen three fatal cases of tetanus; all were from wounds, two were railroad injuries, and one caused by the falling of a window sash.

Dr. L. McLane Tiffany reported that tetanus as a result of toy-pistol wounds had been of remarkable frequence in Baltimore. He thought some importance should be placed upon the part wounded, and this differed with differences of race and other peculiarities; thus, the negro is peculiarly liable to suffer from the disease in consequence of injuries to the head and neck. One of his associates had made a careful chemical study of the fulminate of the caps used in the toy pistols, but had discovered nothing. He had not seen a case of tetanus from this cause that recovered.

Dr. Mears called attention to a case he had reported three years ago, from the toy pistol, in which chemical examination had failed to reveal anything. He considered the frequency of the disease in connection with this accident due to the character of the cartridge used, the manner in which it is placed in the pistol, and the fact that it is discharged in the hand, causing the fragments produced by disrupture of the cartridge to enter the flesh.

Dr. David Prince advised free incision for the purpose of permitting the escape of discharges and particles of foreign matter.

Dr. Nancrede reported several cases arising from various injuries. Only two cases recovered, and they had been treated by trephining the fractured bone which was the cause of its development, and removing the fragments, the operation being followed up by the administration of large doses of chloral. The child had, however, for several weeks the most pronounced risus sardonicus. The other case recovered after amputation of the finger. He had seen the musculo-spiral, the median, and the radial nerves stretched, with the result of temporary improvement. He had made neurotomy for it with the same unsatisfactory result. He had kept the patient under anæsthetics for hours, alternating between ether and chloroform, when ether seemed to lose its effect. He had seen calabar carried almost too far; everything appeared to give relief. One of his colleagues had obtained a recovery from the inhalation of nitrite of amyl alone. In one case he had seen good results from it, but the treatment was changed without his consent, and the patient died.

Dr. T. F. Prewitt reported several cases from the toy pistol. In one case from injury of the right arm he had obtained good results from the administration of large doses of bromide and chloral with five drop doses of Fowler's solution every three hours. In a few days the patient went into a typhoid state, in which he remained three weeks. He had an exceedingly dry tongue, but no diarrhœa. When he recovered it was discovered that the flexor muscles of the left foot were paralyzed. In another case in which the symptoms were mild, the same treatment was employed, and the man recovered. While it was doubtful whether every case could take such large doses of Fowler's solution, he thought a tolerance for it was developed in this disease.

Dr. Moses Gunn reported a case in which stretching of the median nerve was followed by recovery with permanent paralysis. Another case of nerve-stretching was attended by complete recovery. In another case following amputation, the administration of the calabar bean appeared to be the element of cure. It is an old view that if a case can be kept alive for ten days it will recover; looking at this from another view, it is in those cases in which the disease exhibits a milder form and comes on more gradually that the patient lives for ten days and finally recovers. The fatality is in direct ratio to the acuteness of the attack.

DR. T. W. BRIGGS thought there must be in all cases a peculiar predisposition to the disease. When the individual is in that condition, the slightest injury will be followed by the disease. He then reported a case in which the removal of an ulcer of the knee was followed by the disease and death within three days, although the wound had been carefully closed and no cause could be determined.

DR. CONNER, in closing the discussion, remarked that while he did not deny the theory of a predisposition, one fact was opposed to it, and that was that those persons who have the predisposition may be wounded over and over again without the development of tetanus. He thought there was nothing special in the character of the fulminate used in the toy pistol further than that it is a powerful one, driving the wad deeply into the tissues, where it soon becomes saturated, obstructs the discharge of fluids, and affords abundant opportunity for decomposition. It requires but an infinitesimal quantity of the septic matters produced by decomposition to produce the most alarming results. In explanation of the peculiar liability of the negro to contract the disease from wounds of the head and neck, he suggested that there is something peculiar in the free secretions of the skin of the negro that may be more liable to decomposition than those of the white man. Dr. Tiffany had further called his attention privately to the susceptibility of the negro to cerebro-spinal meningitis, a disease closely allied to tetanus. All the statements that had been made, he thought, favored the humoral theory. The cases that recover do so as a result of the administration of remedies which allay the irritability and tide the patient over the period of danger until the spontaneous elimination of the disease may occur. In his experience the disease had followed major rather than minor injuries. With regard to nerve injuries as a cause of the disease, he considered the point made in the paper of importance, namely, that the more sensitive the nerve the greater the lymphatic circulation, and, therefore, the corresponding liability to the absorption of septic matter. In conclusion, he expressed the hope that in the near future investigations will be made toward the discovery of the microörganism to which the disease is due.

Dr. C. T. Parkes, of Chicago, was unavoidably absent and his paper on

A CASE OF CHOLECYSTOTOMY,

was read by Dr. Moses Gunn.

The patient had suffered for several years from severe symptoms of the disease. The general health was, however, good. Some icterus was, however, present, and examination revealed a bulging of the right hypochondrium, due both to distention of the gall-bladder and enlargement of the liver. An oblique incision was made just above the prominence supposed to be the gall-bladder. After pushing aside the enlarged liver, the cyst was found very much distended. The bile was drawn off, an opening made in it, and the edges of the incision stitched carefully to the edges of the abdominal wound. No calculi were found. Four days were allowed to pass before the wound was dressed. It was found then that the enlargement of the liver had disappeared, and probing removed seven calculi. When the wound was next dressed, three days after, five more stones were removed. Three weeks after severe pain and the failure during the interval of the bile to pass into the intestine, rendered a second opening necessary. This time a probe was passed down the common duct into the intestine. After this the stools had a bilious character, and regular recovery followed. Two months later, the fistula had to be enlarged on accont of the recurrence of pain, the calibre of the duct appearing not sufficiently large to permit the proper passage of the bile. In conclusion, the author expressed the opinion that the case had been one of obstruction of the common duct, and that the stones which were found after the operation were not in the bladder but in the ducts, and did not pass into the gall-bladder until its distention was removed.

(This paper will be published in full in *The American Journal of the Medical Sciences* for July.)

DR. MEARS remarked that this disease is more frequently treated by the physician than the surgeon, but he thought the time had come when more attention should be given to the surgical treatment. Cholecystotomy is called for in more affections than those referred to in the paper. There are both intrinsic and extrinsic conditions which call for it; conditions in the gall-bladder and conditions in its ducts. The conditions most frequently requiring operative procedure are chronic inflammatory affections of the lining membrane of the duct; tumors making pressure upon the duct, malignant disease of the structures of the duct and around it; suppuration, the abscess in or around the duct requiring evacuation; and finally, impacted gall-stones either in the bile-duct or in the common duct. The cases that have been reported, which are contained in an article in *The American Journal of the Medical Sciences* for October last, number 35; of these eight or ten died. Stones were not found in all, but other conditions seemed to indicate the necessity of the operation. It is important, he thought, to be sure of the diagnosis before operative measures were adopted. With reference to the point at which the incision should be made, he thought it better not to go so high as in this case, because the tension of the liver on the delicate cyst is too great, and inflammatory conditions sometimes make it impossible to push the liver aside. Some consider the point where the least hemorrhage will occur the best, but the hemorrhage is seldom of any consequence. It was objected that this operation does not give assurance of a permanent cure, but that the disease is apt to return. On this account the entire removal of the gall-bladder has been advised. This is objected to, however, on account of the possibility of the existence of some relation between the presence of the gall-bladder and the discharge of the bile into the intestine, and that the destruction of this relation is apt to cause disturbance of considerable severity.

DR. TIFFANY referred to the difficulties of diagnosis and the frequence of mistakes. Further, it is a matter of interest to study the behavior of an organ when its ducts are occluded by a foreign body. Organs which are bilateral, as the kidney, are much more intolerant of obstructions than those which are unilateral. Where one ureter is obstructed, the opposite kidney is exceedingly prone to take on inflammation, but the duct of the liver, or of the pancreas, may be occluded and the subject live with comparatively little inconvenience.

He considered that catheterization of the gall-ducts promises good results.

Dr. Prewitt narrated a case in which he found the patient suffering great pain and in collapse. He could distinctly feel the gall-bladder full of stones through the abdominal wall. The patient died in a short time without recovering from the collapse. In the case of a negro woman the gall-bladder was very large, extending below the umbilicus. He aspirated and drew off a pint of a mucous fluid with very little indication of bile in it. In some cases gall-stones may remain in the gall-bladder for the greater part of the lifetime of the individual, doing very little harm. If they are discovered, he did not advise operation unless they should produce grave symptoms. In one case he had seen a woman who had suffered for years from obscure symptoms which were considered hysterical, in an attack of acute obstruction of the bowels. Operation was proposed and consented to, but before it was attempted the patient went into collapse. The autopsy revealed that a gall-stone had penetrated into the jejunum, causing the obstruction. He further believed the case of Prof. Hodgson, of St. Louis, who died from perforation of the gall-bladder, to have been one of this character, the stone being so small as to escape detection at the autopsy. He opposed the making of too low an incision.

Dr. S. W. Gross had collated 42 cases of operations upon the gall-bladder for concretions or dropsy, an examination of which may prove of interest in our efforts to arrive at correct conclusions regarding the proper management of these conditions.

Of 36 cases of cholecystotomy, 28 recovered, and 8, or 22.22 per cent., died—3 of exhaustion and hemorrhage, 2 of shock, and 1 each of escape of bile into the peritoneal cavity, suppression of urine, and acute peritonitis. He stated that the operators were Tait in 15 cases, Keen in 2 cases, and Kocher, Ransohoff, Gardner, Eddowes, Savage, Bobbs, Sims, a surgeon quoted by Tait, Courvoisier, Trendelenburg, Koenig, Boeckel, Naire, McGill, Meredith, Parkes, Savage, Taylor, and Wright, each in 1 case. In the case of Wright, the patient was thought to be the subject of renal calculus, so that the incision was made through the loin, and a stone extracted from what at first was presumed to be the enlarged ureter. On death from peritonitis, the kidney was found to contain a stone. In 4 cases, the gall-bladder was sutured and returned into the belly. Of these 1, or 25 per cent., died as the direct result of the procedure, as against 8 deaths out of 31 cases in which the viscera was stitched to the wound, the mortality being 22.58 per cent. In the case of the surgeon mentioned by Tait, the sutures appear to have given way and permitted the escape of bile into the peritoneal cavity. That suturing the bladder is not so dangerous as Tait assumes is shown, not only by the comparatively insignificant rate of death, but by the case of Meredith, in which, on death from suppression of urine, the stitches were all right, and the gall-bladder contained nearly eight ounces of bile. Were he himself called upon to do the operation, he would certainly employ sutures and return the organ.

In 6 cases the gall-bladder has been excised, 5 times by Langenbuch, and once by Courvoisier. One of Langenbuch's patients died, because of the existence of an ulcer in the cystic duct, which was overlooked on account of the presence of large masses of fat, which permitted the bile to escape into the peritoneal cavity. Hence, the mortality of cholecystectomy is 16.66 per cent., or 6.19 per cent. less than that of cholecystotomy, which shows that is not so absurd a procedure as Tait declares it to be. Finally, in 1 case Von Winiwarter successfully established a communication between the duodenum and the gall-bladder. This operation, or cholecystenterostomy, has not been repeated on the human subject, although Dr. Gaston, of Atlanta, has experimented with it on dogs.

In the present state of our knowledge, based upon the foregoing data, he would prefer cholecystotomy in recent cases, but would not hesitate to extirpate the gall-bladder if its coats were ulcerated, or if ulceration were threatened.

Dr. J. Ewing Mears next read a paper on

PHOSPHORUS NECROSIS OF THE JAWS,

in which he discussed chiefly the local and constitutional character of the disease, the value of early treatment in arresting it, the value of a certain agent (turpentine) which is antidotal in character, and, finally, the prevention of the disease. After a brief résumé of the history of the disease, he reviewed all the more important conditions that have a bearing upon the affection and the susceptibility of certain persons to it. This susceptibility varies greatly with different individuals. A majority of the employés of match factories are females, varying in age from eleven to twenty. Some of these work only a few weeks, while others are able to endure it for years. Most of the cases are among those in the packing-room. The effects of phosphorus on the system were also described at some length. Very few of the symptoms given as the physiological or toxicological effects of phosphorus were found at all prominent in these cases. Beyond the evidences of bronchial and conjunctival irritation, none was prominent. Constipation was more frequent than diarrhœa. No aphrodisiac effects were observed, and no change in the menstrual flow. Pain over the liver, nausea, and sick headache, are described by many, while well-defined catarrhs have not been noted. One of the primary effects of the poison is the disintegration of the red blood-corpuscle and the fatty degeneration of the blood-vessel walls. With this degeneration of the walls, the liability of the poison to affect the periosteum and the mucous membranes is great. He had seen hemorrhages from mucous membranes that appeared blanched and bloodless. Professors von Bieber and Geis, in 1847, concluded, from original experiments with phosphorus on rabbits, that the poison must come into direct contact with the periosteum in order to produce necrosis, and that those free from carious teeth were free from the disease. The last opinion, he received with some hesitation, because he had seen persons with carious teeth who were not affected after long exposure; persons who had had teeth extracted without ceasing their employment and without the development of the disease, and in the case previously referred to the disease did not develop until three months after the exposure had ceased. The only early symptom was the feeling, on the part of the patient, that his teeth were lengthened. Importance was placed upon the accumulation

of tartar about the necks of the teeth, and its penetration below the surface of the gums, resulting in constant irritation. This irritation renders the phosphorus more likely to attack the alveolus, especially upon exposure to cold or wet. Comparing the effects of phosphorus and arsenic necrosis, he pronounced the former local, the latter general.

The repair from phosphorus necrosis varies with different cases. Usually it pretty completely envelops the necrosed bone and encroaches well upon the articulation. In one case, in which operation was refused and the disease went on for six years, the sequestrum was completely enveloped by the new bone. But the permanent character of the new bone formation has been called into question by Mr. Salter, who claims that sooner or later the new bone will be absorbed. While absorption sometimes occurs, he did not think it necessary, and believed that its occurrence depends to some extent upon the time at which, and the method by which the sequestrum is removed. Although it would seem that the pressure of dentures upon the new-formed bone would hasten its absorption, this is not the case, but rather the reverse. The frequency of the disease in the lower jaw as compared with the upper, he attributed to the difference in histological structure and blood-supply of the two bones. Further, his experience had been the reverse of that of Mr. Heath that phosphorus necrosis is less frequent in cancellous bones than in compact ones.

The symptoms of the disease are at first intermittent, but soon become continuous. The first and second stages soon pass, giving way to the suppurative stage. In that stage, the teeth become loose, and pus exudes from the alveoli; the gums become detached, and the alveolar border becomes visible. The discharge is of a very offensive character. In the lower jaw, the pus usually burrows to the most dependent poin , discharging at the lower margin of the jaw, and in one case it was discharged at the lower margin of the clavicle. When the condyle of the jaw is affected, great pain is experienced in the ear. The difficulty of taking food, the pain occasioned by the attempt to do so, and the swallowing of the offensive discharges all tend to deteriorate the health of the individual, and unless interference is made death may occur.

The treatment divides itself into primary, intermediate, and secondary. It is rare that the patient presents himself for primary treatment. The treatment, however, relates to the condition of the teeth, and the administration of antidotal remedies. Teeth too much diseased to be saved should be extracted, others should have temporary fillings until able to bear permanent. The gums should be bathed in alcohol, tincture of myrrh, phenol, etc. The vapor of turpentine is reputed to overcome the effects of the vapor of phosphorus.

When the stage of suppuration has developed, cleanliness should be enjoined and solutions of iodine and carbolic acid should be thrown around the parts. Also a 7½ per cent. of iodoform gauze should be used to receive the discharge, and to prevent its mixture with the secretions of the mouth. Poultices and warm applications should not be used, and nothing should be done to retard the growth of new bone. The sequestrum should not be removed unless the necrotic action has ceased and the development of new bone has reached a stage sufficient to retain the shape of the jaw. The sequestrum should be removed from the mouth, care being taken not to fracture or tear away the lamellæ of new bone. After removal of the sequestrum, the cavity should be filled with a 7½ per cent. of iodoform gauze. The strength of the patient should be maintained with iron and quinine and concentrated food. The prevention of the disease should be accomplished by control of the employé. The emission of the fumes of phosphorus should be prevented as much as possible, and they should be removed as quickly as possible. The vapor of turpentine should be employed either in large baths or in small reservoirs suspended around the neck of the workmen. In addition to this, cleanliness and frequent inspection of the teeth should be enforced.

DR. E. M. MOORE inquired whether phosphorus necrosis differed materially from ordinary necrosis of bone, and whether in young cases the articulation escaped. He asked further how long the speaker had been accustomed to wait for the formation of new bone before operating; if much contraction of the arch occurred; and whether when the bone removed includes the joint, a useful articulation was formed by the regenerative process.

DR. MEARS replied that his attention had never been called directly to the first question. In regard to the second, all his patients had been of such an age as to represent the adult formation of bone, and that the joint was therefore involved. The period of time that should elapse before operation varies with the case; as a rule, at least four months are required for the new bone to become sufficiently firm. Contraction of the arch is not to be feared except where the entire jaw is removed. To prevent this, it is advisable to remove only one side of the jaw at a time, waiting until that side has become firm before attacking the opposite side. The new joint is, as a rule, perfect so far as function is concerned.

DR. MEARS next exhibited an *Apparatus for the Inhalation of Ether*, the advantages of which were the regularity of the flow into the cone, and the ease with which the ether could be disengaged by heat.

Some miscellaneous business having been transacted, DR. MOSES GUNN, President-elect, was conducted to the Chair, and he accepted the presidency in a few words expressive of his gratification at the honor, and his sensibility of the importance of the position.

DR. W. T. BRIGGS, in retiring from the Chair, congratulated the Association on the success of the session, which he then declared adjourned.

LOUISIANA STATE MEDICAL SOCIETY.

Annual Meeting, held at New Orleans, April 21, 22, 23, 1885.

(Specially reported for THE MEDICAL NEWS.)

(Concluded from p. 508.)

APRIL 23D, THIRD DAY.—MORNING SESSION.

MISCELLANEOUS BUSINESS.

THE Secretary read a communication from the Rapides Medical and Surgical Association, asking the Society to hold its next meeting at Alexandria, and one from the

Bienville Association, requesting the Society to meet at Arcadia. These communications were referred to the Nominating Committee.

Dr. Tebault moved that a Nominating Committee, to consist of one member from each Parish represented, be formed. Carried.

Dr. Lyon moved that "the thanks of the Society are due, and are hereby tendered our Recording Secretary, Dr. P. B. McCutchon, for his faithful performance of his duties during the past two years." Adopted.

THE COMMITTEE ON NECROLOGY

reported the death of four valued members of the Society during the year 1884.

In Ascension, Dr. A. C. Love, July 29; in De Soto, Dr. R. T. Gibbs, in July; in New Orleans, Dr. J. C. Faget, December 9; and, lastly, Prof. S. M. Bemiss, M.D., in whose death on November 17, the profession of this State and of the country at large mourns the loss of one of its most eminent and gifted members; distinguished as a teacher, as a sanitarian and philanthropist, as well as for his learning and social qualities, which endeared him to friends and acquaintances.

Dr. M. Schuppert read extracts from his paper on the *Physiological Action of Chloroform*, with experiments on animals.

THE NOMINATING COMMITTEE

presented the following report, which was adopted:

President.—Dr. Samuel Logan, of Orleans.

Vice-Presidents.—Dr. E. S. Lewis, Dr. C. J. Bickham, Dr. T. J. Woolf, Dr. A. A. Lyon, Dr. William Kelly, Dr. O. P. Langworthy.

Annual Orator.—Dr. H. D. Bruns.

Place of Meeting.—New Iberia.

Dr. Rudolph Matas then read a valuable paper on

THE NATURE OF THE CONTINUED FEVERS OF LOUISIANA WHICH RESIST QUININE.

In Austria, Germany, and France, where malaria is not especially prevalent, the indiscriminate use of quinine is, to say the least, extravagant, quinine being administered in those countries not so much as a specific or antidotal agent, but simply as an antithermic. The immediate use of quinine at the onset of an obscure fever of low temperature would there be censurable, but in Louisiana, where malarial fevers of an insidious and malignant character so extensively prevail, the object of the therapeutist is not so much to lower a temperature, that might be insignificant in itself, but to prevent any further development of pyretic phenomena by antagonizing or neutralizing the poison—the paludal poison, which might be acting as the pyrogenic agent. Hence, Dr. Matas held that the teaching of Nothnagel was not applicable to Louisiana and other malarious countries, and that the general practice of immediately prescribing quinine at the onset of a fever of obscure etiology was safe and correct.

Dr. Matas stated that his aim was to discuss those pyretic states in which it was comparatively worthless as an antipyretic.

These conditions might be classed in the order of rebelliousness as follows: 1. Yellow fever; 2. Typhoid fever; 3. The so-called typho-malarial fever; 4. Dengue; 5. The so-called "continued malarial fever;" 6. The simple continued fever; 7. The malarial remittents with organic complications or "bilious fever."

After a cursory review of the etiological factors in these diverse pyrexiæ, he concluded that the reason why the cinchona alkaloids fail to produce any effect is simply due to the fact that in each one of these conditions the causative factors are agencies which are not neutralized or antidotally affected by the alkaloids, the beneficial action of quinine being specifically restricted solely to cases of uncomplicated malarial fevers.

The major part of the paper was devoted to the study of the so-called "continued malarial fever," which was recognized under various confusing and misguiding appellations by practitioners. In this condition, which he regarded as an absolutely independent entity, quinine is a thoroughly impotent agent. The differential diagnosis between this fever and typhoid and malarial fevers was elaborately treated and copiously illustrated by graphic thermometric observations. Special stress was laid in the absence of enteric and ataxic symptoms in this condition as differentiating it from typhoid. Quinine had been administered, thirty grains per diem, in many cases for one week with the view of testing its relations to malaria, but no effect whatever had been produced. The new antipyretics, salicylate of soda, kairin, and especially antipyrin, had been tried with remarkable antithermic results, the numerous charts presented by Dr. Matas attesting to his observations. The fever, however, was never arrested in its course, an abnormal elevation of temperature persisting, during two, three, four, and five weeks, but under the vigilant administration of the antipyretics and a supporting treatment, the dangerous effects of excessive tissue change had been greatly eliminated. The prognosis is favorable in all the typical cases of the continued fever.

The great difficulty in the differentiation of this fever from the malarial fevers at the beginning of a case, is the lack of a positive differential test. Periodicity is certainly no criterion of malaria; the blood morphological changes which are special to malarial poisoning which may furnish a microscopical test for this agent, are practically valueless at the most needed moments. The inoculations recently performed by Gerhardt, Ciarrochi, Mariotti, and other Italian observers, may perhaps furnish a future test for the malarial poison, but this is highly improbable.

The quinine or therapeutic test, though imperfect, furnishes clinically the readiest and most practical means of determining the nature of a case. After prolonged observation, the speaker believed that, as a general proposition, it is safe to assume that any essential fever (a fever free from organic complications) which remains unaffected after a thorough and systematic administration of quinine, is not a malarial fever.

In conclusion, it was stated that more accurate and detailed observations are needed to complete the satisfactory study of the fevers of this section. The word "malaria" is repeated too frequently in our medical vocabulary, and appears too often in our diagnoses. It is a convenient word, but, like the *regnum protisticum* of some naturalists, it serves merely to designate a

scientific *limbo* wherein numerous species are patiently waiting redemption.

Dr. Austin then read a paper on the *Inversions of the Gravid Uterus.*

Evening Session.

The second Wednesday in April, 1886, was selected as the *time for the next meeting.*

The newly elected President announced the new Committees, and after passage of appropriate resolutions of thanks, the Society adjourned to meet in New Iberia, La., on the second Wednesday in April, 1886.

NEWS ITEMS.

CANADA.

(*From our Special Correspondent.*)

Toronto General Hospital.—During last winter's session, four hundred and fourteen students have been attending the practice of the Toronto Hospital. The average daily number of in-patients was over two hundred. Special gynecological wards have been lately opened under charge of Drs. Temple and U. Ogden. The training-school for nurses in connection with the hospital is in a prosperous condition, and has thirty-four pupils.

Summer Sessions.—The tenth summer session in connection with McGill University opened on the 13th of April, and continues for three months. The courses are mostly practical, and given in the Montreal General Hospital. This year the two rival schools in Toronto have combined to form a teaching faculty for the summer session in the Toronto General Hospital. All the lectures will be given in the hospital. The session begins on May 1st, and lasts ten weeks.

Yellow Fever Inoculations.—We are indebted to Dr. Domingos Freire for a copy of the *Rio News*, of April 5th, in which he publishes the following important statement concerning his yellow fever inoculations.

With the intention of giving your readers some ideas which I trust will be of interest, relating to the inoculations practised in the city with the attenuated liquid culture as a prevention against the dangers of contracting yellow fever and of which I have by order of the Imperial Government the charge, I beg to give you the following details.

Having had printed in different languages (Portuguese, German, Spanish, Italian, French, and English) notices relating to the subject, of which the enclosed are specimens, after their distribution in the most conspicuous and convenient parts of the town and in places where they in all probability would be useful, I gave the necessary instructions to my assistant, Mr. Charles Browne, to proceed with the work.

From December 22d last year, up to March 22d instant, or in the period of three months, 1109 persons of different nationalities, and whose ages ranged from one month to sixty years, were submitted to subcutaneous injections in the deltoid region of the arm with the said liquid. All, with the exception of one or two cases, experienced elevations of temperature varying from 37.5° C. to 40° C., *frontal headache*, pains in the articulations, general indisposition, and in some, slight epigastric oppression—symptoms which ceased after twenty to forty hours and without any medical intervention. In many cases these injections were practised in houses where a few hours before deaths had taken place from yellow fever; nevertheless in the cases specified and under disadvantageous hygienic circumstances, not one single serious accident has happened. I beg to add that these inoculations were chiefly performed in my presence and in the company of the two medical gentlemen commissioned by the Spanish government specially to study this disease in Brazil.

Every care has been taken in giving publicity in one of the principal newspapers, as to the names, ages, professions, conditions, residences, time in Brazil, etc., and this will be continued in order to facilitate the necessary examination by those who may be so inclined.

New York State Medical Association.—The second scientific meeting of the Fifth District Branch will be held at the Morgan House, Poughkeepsie, at 2.30 P.M., on Tuesday, May 19, 1885. The following papers will be read:

"Three Cases of Ligation of the External Carotid; in Two, Both Vessels were Tied Simultaneously," by J. D. Bryant, M.D.

"Diphtheria and its Treatment by Calomel," by S. J. Murray, M.D.

"Hypertrophy of the Prostate Gland," by J. G. Porteous, M.D.

"Treatment of Cerebral Hemorrhage and Embolism by the Internal Use of Carbonate of Ammonia," by R. C. Van Wyck, M.D.

"Report of a Case of Rheumatic Metastasis to the Brain, ending Fatally," by C. S. Wood, M.D.

Jefferson Medical College.—It is understood that Dr. Wm. H. Pancoast has informed the Trustees and Faculty of his intention to resign the Professorship of Anatomy in this school at the expiration of the next term.

University of Pennsylvania.—At the Annual Commencement of the Medical Department, held on May 1st, the degree of M.D. was conferred on 108 graduates.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM APRIL 28 TO MAY 4, 1885.

Byrne, Charles C., *Major and Surgeon.*—Assigned to duty as Attending Surgeon at the Soldiers' Home, D. C., to take effect May 15, 1885.—*S. O. 94, A. G. O.*, April 25, 1885.

De Witt, Calvin, *Captain and Assistant Surgeon.*—Upon being relieved by Surgeon Byrne, ordered to report to the Surgeon-General of the Army.—*S. O. 94, A. G. O.*, April 25, 1885.

Torney, George H., *Captain and Assistant Surgeon.*—Assigned to duty at Fort Monroe, Va.—*S. O. 87, Department of the East*, April 25, 1885

Arthur, William H., *First Lieutenant and Assistant Surgeon.*—Assigned to duty at Fort Niagara, N. Y.—*S. O. 89, Department of the East*, April 28, 1885.

The Medical News will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the News *should be addressed to No. 1004 Walnut Street, Philadelphia.*

THE MEDICAL NEWS.

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ORIGINAL ARTICLES.

THE EPIDEMIC OF TYPHOID FEVER AT PLYMOUTH, PENNA.

BY LEWIS H. TAYLOR, M.D.,
OF WILKESBARRE, PA

THE borough of Plymouth, situated upon the banks of the Susquehanna River, three miles below the city of Wilkesbarre, in the State of Pennsylvania, is a mining town of some eight or nine thousand inhabitants of various nationalities. The main street of the town is parallel to the river and upon alluvial soil, while a large portion of the inhabitants live upon higher ground extending some distance toward the sloping mountain beyond.

The general health of the inhabitants has in past time not been worse than that of their neighbors in surrounding cities, but about the second week of April, of the present year, an epidemic of fever, of great virulence, broke out, and so sudden was the onset, that within a very few days nearly a thousand people were stricken with the dread disease. The ravages were not confined to any class of people, nor to any section of the town, but the dwellers in the mansion as well as in the hovel were alike attacked; the house upon the hillside being not more free from the scourge than that situated in the valley.

The epidemic appeared so suddenly, following upon a few days of warm weather, and the symptoms of those first attacked were so severe, that some diversity of opinion as to the true nature of the disease seemed to exist among the attending physicians. It was variously declared to be typhoid fever, malarial fever, typho-malarial fever, and typho-malarial-meningitis; but in a very short time its true nature was made manifest, and the doubt no longer existed that a true epidemic of typhoid fever was hanging over the doomed borough of Plymouth. The scourge spread with frightful rapidity, from fifty to one hundred new cases appeared daily, until nearly one thousand persons, as above stated, were affected.

Various theories as to the cause of this outbreak were put forth, the most prominent being that it was due to the accumulated filth of the town, which being acted upon by the warm rays of the April sun, had suddenly become noxious, but inasmuch as all classes of people were attacked, the clean as well as the filthy; and all parts of the town affected, the highlands as well as the valley; thoughtful minds naturally turned to the water supply as a possible cause of the invasion. But Plymouth is supplied by a stream of great purity, which comes leaping down the mountain side a distance of several miles, and is distributed through the various streets by pipes running from the lower of four successive reservoirs, formed by huge dams of masonry across the stream. Occasionally, however, when the water in this stream is quite low, the pipes are supplied with water pumped directly into the mains from the Susquehanna River. This was the case from March 20 to March 26, but as the river water at this point is known to be reasonably pure, this fact did not seem to present sufficient explanation of the cause of so widespread an epidemic.

That the mountain stream supplying the town with water might have become polluted by fecal matter was first suggested by Dr. R. Davis, of Wilkesbarre, in an article published in the *Record of the Times* about May 1st. The publishing of the article excited considerable interest, and, as great consternation prevailed among the people upon the subject of drinking water, a committee of physicians, consisting of Drs. J. A. Murphy, J. L. Miner, and myself, was requested by the Plymouth Water Company to make a thorough investigation of its reservoirs and stream, to ascertain, if possible, whether any source of water pollution had existed, and whether the same was now operative. A very careful examination of the stream, with its several reservoirs, was made on May 6th, and specimens of water from different points procured for chemical examination.

The Committee found the stream supplied with an abundance of pure water, and no source of contamination at *present* existing, but between the third and fourth reservoirs, however, in the only house situated upon the stream, and within forty feet of its banks, they found a patient convalescent from typhoid fever. This patient visited Philadelphia on December 25, 1884, and while there contracted the disease. He returned to his home in January, and was quite ill with genuine typhoid fever for many weeks, having suffered from a relapse of the same after he had partially recovered. On March 18th and 19th, he suffered from attacks of hemorrhage from the bowels of so severe a type that his life was despaired of.

During the course of his illness the dejecta passed at night, without any attempt at disinfection, were thrown out upon the snow toward, and within a few feet of, the stream supplying the town, while that passed during the daytime were emptied into a privy, the contents of which *lie upon the surface of the ground.* That this was so done we have from the testimony of the two nurses in attendance, and it is not denied by other members of the household. These dejecta, thrown out from time to time, no doubt accumulated and remained innocuous upon the snow and frozen ground. From March 25th to March 31st, the temperature, as shown from actual records, was daily above the freezing point and sufficiently warm to melt large quantities of snow, while early in April we had frequent, light showers of rain with mild, warm weather. These

thaws and rains removed the snow, and with it the accumulated poisonous dejecta, directly into the water supply. Supposing this to have occurred between March 25th and April 5th, and allowing from ten to fourteen days as the proper period of incubation, we would expect, from this cause, an outbreak of typhoid fever to occur from the 5th to the 15th of April. The time of the proven contamination of the water supply, allowing the proper time as the period of incubation, corresponds so thoroughly with the onset of the epidemic, that the Committee could but conclude that in this explanation sufficient cause was found for the epidemic of typhoid fever in Plymouth.

The opinion that this disease, in the present case, came directly from the use of hydrant water from the reservoirs, and not from that pumped from the river in March, was strengthened by the following facts: Six hundred feet below the first reservoir from which the supply pipes start, there is found upon the banks of the stream a house in which two persons are sick with the fever. The family living in this house dip water directly from the stream overflowing from the reservoir, and have at no time used river, or hydrant water. A little further down the same stream stands a house in which hydrant water is used, and in this house the sickness prevails, while in another, situated but sixty feet away, and supplied with well water, all the inmates are free from the disease. A little further north of these houses there are found, on Temperance Hill, eleven families using well water. None of these have at any time been attacked. On the upper side of Lee Street almost every family using hydrant water is affected, while those living on the lower side of the same street all use well water, and none of them are sick.

The same relative state of affairs exists on Davenport Street. Ackley Street, which is supplied with a small pipe and back water, has but few sick, while on Franklin Street, supplied by the regular main, very many are affected. On Franklin Street one house supplied with well water was found in which two patients are ill, but of these the first to contract the fever was a girl of nine who had been attending the public schools, these schools being supplied with hydrant water. Many cases exist where well water is used, but it is found that the patients first attacked in such houses are those accustomed to drink water away from home.

Further investigation of numerous cases but confirms the opinion that persons who use well water habitually, and are suffering with the disease, are those who have been accustomed also to drink hydrant water away from home; the women and the children in such houses, except those who attend school, are not attacked.

Another striking instance was found which shows that the poison taken into the system did not come from the river water pumped into the pipes from March 20th to March 26th only. A lady came from the West to visit her sister, and arrived in Plymouth March 29th, and thus drank no river water, but she was taken ill on April 12th (about the time of the general outbreak); consequently the poison did not enter her system until after the river water had ceased to be used. A young lady from a neighboring State visited Plymouth late in March, remaining until April 2d or 3d, and is now ill with the disease at her home. A physician from a distance, spending a few days with a friend in the borough early in April, contracted the disease, and is now reported seriously ill in another part of the State.

If the river water were the cause of this disease, as is held by some, then we should have looked for an outbreak any time from March 30th to April 2d; in other words, from ten to fourteen days after the pumping of the river water began, but the fact is, no cases of the disease appeared until about April 10th or 12th.

The Committee did not pursue the investigation further, because they believed they had already found in the facts above mentioned sufficient explanation of the cause of the epidemic. They concluded as follows:

1st. That the present epidemic in Plymouth is undoubtedly one of typhoid fever.

2d. That its exciting cause was the use of water from the reservoirs furnished some time between March 25th and April 5th, and polluted by excreta from a typhoid fever patient living near the source of water supply.

3d. We do not believe that the said epidemic was caused by drinking river water. We are led to the second conclusion from finding what, in our judgment, is sufficient evidence of past pollution of the water supply near its source, and because it is well known that excreta from *one* typhoid patient have frequently poisoned the water supply of a whole neighborhood and caused an epidemic of such fever.

We have only to refer in corroboration of this to the epidemic of New Boston in 1843, cited by Dr. Austin Flint, and to the outbreak at Munich in 1860, and again in 1862; at Caterham and Red Hill in 1878; and especially at Nunney in 1872. We conclude it is not due to the river water pumped directly into the company's mains from March 20th to March 26th, first: Because we have found sufficient cause elsewhere; and, again, because (though not conclusive) river water is frequently used at Plymouth and Wilkesbarre, and constantly at Nanticoke, without causing such epidemics.

We find the present water supply in very good condition, and the specimens from the several reservoirs and taps of excellent quality and purity. We have carefully tested each specimen for organic matter and find none. The specimens, with one exception, are almost entirely free from sediment, of neutral reaction, tasteless, and odorless. The exception mentioned is that taken from an *unused* hydrant at the corner of Lee and Davenport Streets. This, under a high power of microscope (immersion lens) shows infusoria and inorganic matter with traces of vegetable matter. In the specimens from the reservoirs and taps used in town, there was no appreciable sediment.

Although we may expect new cases to arise from contamination of those already existing, we believe

the chief danger to be past, and the origina cause no longer existing.

The epidemic, as already mentioned, is widespread. A careful estimate gives the total number of cases in Plymouth and its immediate out 'rts as rather more than one thousand, while an actual count shows within the borough limits seven hundred and thirty still sick with the disease. Thus far, between eighty and ninety have died.

This most remarkable epidemic teaches us an important lesson at fearful cost. viz., that in any case of typhoid fever, no matter how mild nor how far removed from the haunts of men it may be, the greatest possible care should be exercised in thoroughly disinfecting the poisonous stools. The origin of all this sorrow and desolation occurred miles away, on the mountain side far removed from the populous town, and in a solitary house situated upon the banks of a swift-running stream.

The attending physician did not know that this stream supplied the town below with its drinking water. Here, if in any place, it might seem excusable to take less than ordinary precautions, but the sequel sadly shows that in all cases the most rigid attention to detail in destroying these poisonous germs should be enjoined upon nurses and others in charge of typhoid fever patients; while the history of this epidemic will but add another to the list of such histories which should serve to impress medical men at least, with the great necessity for perfect cleanliness, a lesson which mankind at large is slow to learn.

The Committee, in a supplemental report, recommended the Water Company not only to remove from the banks of its stream the offending privy, but also to remove privy and outhouses from its property on the banks of the fourth reservoir, lest these too, in the future, become a possible source of contamination.

The lesson of this epidemic should impress other Water Companies with the necessity of making a careful sanitary survey of their supply, and of removing from their streams, so far as may be, all possible source of contamination.

46 South Main Street, May 9, 1885.

Note.—Since writing the above a post-mortem examination of one of the unfortunate victims has been made, Police Surgeon French and Dr. E. O. Shakespeare, of Philadelphia, being present, which establishes beyond cavil the true nature of the disease, the characteristic lesions of Peyer's glands being found, the patient having died of perforation of the bowel. This simply confirms the diagnosis of nearly all the physicians of the neighborhood, that the epidemic was purely one of typhoid fever.

AN EPIDEMIC OF ACUTE CATARRHAL CONJUNCTIVITIS—"PINK EYE."

By H. F. HANSELL, A.M., M.D.,
CHIEF OF CLINIC OF EYE DEPARTMENT OF POLYCLINIC, OPHTHALMIC AND AURAL SURGEON TO SOUTHWESTERN HOSPITAL, ETC.

Within the past few weeks so many cases of acute inflammation of the conjunctiva have occurred in Philadelphia and surrounding country, as well as in several other Eastern cities, as to warrant the use of the term epidemic. Some have presented the features of the ordinary non-epidemic catarrhal inflammation, while others, on account of the violence of the inflammation, have had the appearance of Egyptian (purulent) ophthalmia, and seemed bordering on it. Saemisch[1] thus defines conjunctivitis catarrhalis (simplex) "in general a condition of abnormally diffuse hyperæmia of the membrane attended with increased mucous secretion." It is a more or less active exudative inflammation, developing suddenly, and frequently, without assignable cause, reaching its acme it twenty-four or thirty-six hours, receding nearly as rapidly, entirely disappearing in three or four days, and leaving no trace.

As is well known, most of the forms of conjunctival inflammation are contagious, hence their liability to occur in epidemics. Exactly how the contagion is communicated is not known. It may be by actual conveyance of the discharge from a diseased eye to a healthy one by means of towels, fingers, etc.—*material means*—and it undoubtedly is in some cases, for example, in a family of several persons where each one is successively affected; but the majority of cases owe their origin to contagion conveyed through the air—*ethereal means*. An epidemic could hardly be produced by material means, but, as in yellow fever, cholera, etc., by the ethereal dissemination of the poisonous germs or bacteria. The indirect cause of the conjunctivitis, that is, the direct cause of the epidemic, may probably be ascribed to a specific poison, which depends for its life and sustenance on moist filth, decaying refuse of all kinds collected during the winter, and which, liberated from its home by the warm rays of the spring sun, makes its way to our bodies, lighting up in one acute catarrhal conjunctivitis, in another typhoid fever, in a third acute tonsillitis, etc.

The recognition of this disease is not difficult. The inflammations most resembling it, and with which it is most apt to be confounded, are scleritis, episcleritis, and iritis; but, if its prominent symptoms are remembered—bright red conjunctival injection—involving the entire membrane, greatest on the lids and gradually growing fainter towards the cornea; the mucous discharge collected in flakes in the folds, the adherence of the eyelids to one another in the morning; the history—epidemic—its sudden appearance, rapid development, and almost entire absence of pain, its disappearance in a few days under the simplest treatment; and its binocular character, the affection attacking the second eye within a few hours of the first—and these signs are seen in every case—a mistaken diagnosis must be a rare occurrence.

The prognosis is always favorable. No serious complication is apt to arise. In severe cases the inflammation extends by contiguity into the tissue of the lids beneath the conjunctiva, and produces acute blepharitis. The adjacent connective tissue becomes infiltrated and œdematous, presenting the appearance of gonorrhœal ophthalmia. The secretion, although abundant, is never purulent. Œdema of the ocular conjunctiva (chemosis) may also be present, but is

[1] Graefe and Saemisch Handbuch der Augenheilkunde.

never very intense, nor does the inflammatory action extend to the cornea or iris. The former remains perfectly transparent and the latter reacts readily to light and mydriatics. A symptom which may give the patient considerable anxiety is the peculiar appearance of a gas-jet, or other small luminous object. It is distorted from its proper shape and surrounded by a ring of colors. This symptom is caused by flakes of mucus on the cornea, through which the patient sees the light. It disappears for a short time, or is changed after winking and is of no importance. An existing error of refraction may be discovered after the inflammation has passed away by the inability of the muscle of accommodation to resume its abnormal contraction, a good and not an evil result.

The *treatment* is entirely local and of the mildest character. A weak astringent wash, such as borax, gr. v, and ℥ss each of camphor water and pure water, or the same strength alum solution, used freely and frequently on a soft, clean sponge to the closed lids, and the application at night of Pagenstecher's ointment—hydrarg. ox. flav., grs. ʒj—or simple cerate will be proper for the majority of cases. If the inflammation shows a tendency to become chronic, touching the everted lid daily or every second day with silver nitrate, gr. ij—℥j, will speedily effect a cure.

My experience with abortive measures is not sufficient to warrant conclusions, but in one case I was able to prove the efficacy of a ten grain solution of silver. The patient, who was suffering from a severe attack in the right eye, was instructed to present himself immediately upon the appearance of the injection or sense of discomfort in the left. He did so. The silver was applied, followed by cocaine to mitigate the pain, and the next day the left was quite as well as the right. The injection had disappeared in twenty-four hours and did not return.

To prevent the spread of the disease all cloths, sponges, etc., used to cleanse an affected eye should be destroyed or thoroughly washed in a disinfectant solution. Precautionary measures, however, seem to be of little avail. In a private family consisting of a mother, four adult sons, and two servants, all were affected except one servant, although one of the sons who was the first attacked was warned to be exceedingly careful lest he should spread the disease to the others. Five of the six cases were binocular.

254 South Sixteenth Street.

EVACUATION OF AN OVARIAN CYSTIC TUMOR THROUGH THE INTESTINES.

By S. J. RADCLIFFE, M.D.,
of Washington, D.C.

Mrs. R. F., Irish by birth, aged 46 years, married late in life, no children, menopause occurred two years previously, apparently without constitutional disturbance, consulted me August 15, 1883, on account of a considerable colored watery discharge from the vagina and "lumps" in the lower part of her abdomen, one in either side, in each inguinal region, and deep-seated uneasiness, sometimes pain, almost continually felt in those parts.

She said she had been suffering in this way for several months, but felt some modesty in asking advice on the subject, hoping she would get better or relieved, and there would be no necessity for it. Finding her abdomen increasing in size, however, and the discharge continuing, she was compelled, as the only alternative, to make her complaints known.

I had treated her five years before while unmarried, for inflammatory rheumatism, and ever since that period she had always looked pale and cachectic. She kept about her usual occupations notwithstanding, was married, and undertook the duties of housewife with commendable alacrity, only consulting me occasionally for her old trouble of rheumatism, scarcely mentioning any abdominal pain or disturbance, or if so, it was considered of a fugitive character, and treated only in a general way.

She had greatly changed in appearance since I last saw her. She looked still pale, but wrinkled and old, and her flesh was soft and flabby, and she had shrunken like a person and looked fully sixty years of age. Though she had been a stoutly built woman, she did not move with her usual vigor and promptness, and had come to regard herself as a confirmed invalid. Her general external aspect was indicative of disease, while the functions of the heart and other organs of the body, independently of the uterus, were below normal.

On external inspection of the abdomen I found it enlarged, more so on the left side than on the right. On closer examination I discovered a large globular tumor, as large as a child's head, giving the appearance of about five months' pregnancy, of cystic outline, more or less elastic, easily defined, movable, but having some attachment to the contiguous parts, flat on percussion, occupying the left inguinal region, extending somewhat into the hypogastrium, and upwards to or above a line with the anterior superior spinous process of the ilium. On the right side a hard, firm, inelastic nodular tumor, broad, flattened, and of irregular outline, the surface as large as the palm of the hand, of a fibrous nature, bound down by adhesions and decidedly dull on percussion.

On vaginal examination I found the cervix large, swollen, and tender, bleeding to the touch; the uterus large and firm, and pressed down low in the pelvis, its mobility considerably diminished, especially noticeable by bimanual exploration, and by the probe, though the latter was employed very carefully for fear of exciting hemorrhage. The posterior vaginal cul-de-sac was almost obliterated from the pressure of the superimposed parts, and the position of the uterus was slightly oblique to the right, the os looking to the left.

Malignant disease of the uterus and its appendages was suspected—the tumor being probably fibrous or scirrhous in nature on the right side, and cystic or cysto-sarcomatous on the left side of the uterus, and of ovarian origin—and the fact was so stated to the husband of the patient, and also that medicine held out no hope for her relief. Consultation with a competent gynecologist confirmed this diagnosis, as well as the prognosis, and satisfied us that no surgical means would be of any avail in the case.

Her condition remained unchanged for five or six

weeks—the treatment in the meantime being merely palliative. Her abdomen then began to increase in size perceptibly, and the discharge from the vagina to increase, accompanied by some unpleasant odor. She suffered very much from nausea, and eructations of gas from the stomach, and it was difficult to nourish her, anorexia being a prominent symptom throughout. She consequently emaciated rapidly, but did not become so feeble as not to be able to turn or move herself in bed until towards the last. Her mental acumen did not suffer.

Three weeks before her death, which occurred about five months after my first examination, January 4, 1884, she began to have involuntary fetid stools, and one week later began to vomit without pain, straining, or effort, as if by reversed peristalsis, large quantities of a brownish, thin, soupy-looking, nearly odorless fluid, which continued at various intervals for an hour or more at a time. The intervals were not regular or constant, and depended upon no particular condition. The nausea was persistent, but its more or less intensity did not seem to govern the flow. With her head on the pillow the ejected matter would pass out siphon-like. The vomiting would begin and continue with varied force for some time, then cease, to be resumed the same day, or perhaps not until the next day or the day following. It was more continuous the last few days of life. The tumor or cyst in the left side began manifestly to diminish in size from the first vomiting, and gradually emptied, while at the time of her death—which took place from exhaustion—it had nearly disappeared, what remained being not larger or less than a small orange. The hard tumor on the right side was seemingly not affected by the vomiting. The external genitals became so swollen as to make further examination in that direction impossible. No examination was permitted after death.

Not having seen a similar case reported in any current literature, I deem it of sufficient interest to present it for record. Of the type of the disease there can be no doubt, nor can there scarcely be a question that its termination was as described. The mode of its ending was certainly unique, especially with reference to the evacuation of the tumor, this phase of the disease being the main point in which the interest of the case lies, and in the absence of an autopsy the course it pursued may be assumed as correct.

A very "remarkable case" is reported by Emmet in his *Principles and Practice of Gynæcology*, p. 810, Case LIX., of rupture between an ovarian tumor and the stomach. An operation had been begun for an ovarian tumor, and after the parts had been separated, he says "a condition was discovered unique and I may say startling, on account of the difficulties presented. The stomach, colon, and omentum were all adherent to the surface of the tumor and below the line of the umbilicus, while the whole upper portion of the tumor was covered by peritoneum, placed on the stretch by the displaced organs. The tumor was enclosed by viscera at every point within reach except just below the bladder, nearly to which the omentum extended. The empty stomach and colon lay on the surface of the tumor, resembling wet pathological preparations and were adherent by the whole surface in contact. Notwithstanding it was suggested that the tumor might be removed from above, . . . I closed the incision as soon as possible. The woman was placed in bed and began to vomit violently, apparently from the effects of the ether. Rupture took place between the stomach and the tumor, and in the course of several hours the tumor was entirely emptied of its contents. The fluid and semifluid substances were almost sufficient to fill two buckets." I quote this to show that rupture may take place between an ovarian cyst and the intestines or stomach by adhesions even in non-malignant or benign diseases of these parts.

Malignant diseases of the uterus and of the ovaries are not uncommon, and there is no fact better established than that they sooner or later end fatally. They always, however, attract the interest and tax the skill and patience of those who are called to treat them; and there is no class of affections more worthy of our study either pathologically or in the way of treatment.

1211 F Street, N. W.

MEDICAL PROGRESS.

Laparotomy for Intestinal Occlusion.—At a meeting of the Société de Chirurgie de Paris, held March 25, 1885, M. Jenner read the history of a case reported by Dr. Jeannel, in which laparotomy was performed for intestinal occlusion upon a man suffering from chronic enteritis. The patient was fifty-three years of age, and for two days had suffered from severe colic. Five years previously he had experienced an attack of enteritis, which became chronic, and had ever since persisted. When first seen by M. Jeannel his condition was extremely grave. The abdomen was retracted, and the region of the right iliac fossa was painful and swollen. Temperature 99.5° F.; pulse 80; urine scanty. No evidence of hernia. Diagnosis was made by exclusion of intestinal occlusion, and operation was decided upon and performed under antiseptic precautions. Incision was made in the linea alba from a little below the umbilicus to within two inches of the symphysis pubis. On opening the peritoneum no evidence of peritonitis was found. To facilitate examination, the incision was enlarged so as to permit the introduction of the entire hand. There was now discovered a portion of the small intestine, empty and retracted to about the size of the little finger, and about ten inches long, which was constricted by peritoneal adhesions extending from the abdominal wall to the iliac fossa, intestine, and mesentery. No constriction sufficient to explain the occlusion was discernible. M. Jeannel accordingly broke up the peritoneal adhesions, washed the intestine with carbolized water, returned it to the abdomen, and closed the wound with six deep and eight superficial sutures. The day following there was much flatus and one movement of the bowels. Notwithstanding the complications which supervened—inflammation of the wound and pneumonia—the patient survived and completely recovered, and no further trouble from peritonitis or intestinal occlusion was experienced.—*L'Union Médicale*, March 31, 1885.

Considerations upon the Pathology of the Stomach.—Heinrich Schellhaas, in the *Deutsche Archiv für Klin. Medicin*, April, 1885, in a study upon the pathology of the stomach, enumerates the following propositions:

1. Methyl-anilin-violet, tropäolin, carbol-ferric-chloride, are agents of positive value for the determination of free hydrochloric acid as well as of certain organic acids.

2. The several reagents were applied for the determination of the separate acids, with different results. For the estimation of free hydrochloric acid, methyl-anilin-violet and tropäolin are recommended, while for a test for lactic or butyric acid, ferric-carbol-chloride is to be preferred, but the other reagents must be applied as control tests.

3. The absence of free hydrochloric acid in dilatation of the stomach produced by pyloric carcinoma, is produced by the carcinoma *per se*; or the coexisting anæmia, the gastric catarrh, or the disease of the mucous membrane produced by the carcinoma, may be considered as causal.

4. Free hydrochloric acid may also disappear during fever, more frequently it fails (occasionally), or is found in combination with organic acids during attacks of nervous dyspepsia.

5. In dilatation of the stomach not occasioned by carcinoma ventriculi, the lactic or butyric acid frequently existing may nearly always in a short time be removed by washing out the stomach.

6. The danger of increasing dilatation by foods remaining in the stomach after digestion must be met by regular washing out of the stomach.

7. In patients with gastric affections in whom free hydrochloric acid is present, artificial experiments show that digestion is impeded as well in the stomach as in artificial apparatus for digestion, by the addition of ten per cent. alcohol.

8. Digestion which has already been disordered by carcinoma ventriculi appears to be entirely abolished by the addition of even the slightest quantity of alcohol.

Musical Murmurs in Valvular Disease of the Heart.—Dr. P. Pucci in reviewing a case in which these were heard, says:

1. Musical murmurs of the heart, though rarely heard, have long ago been noticed.

2. Their origin is due to the presence of a body which vibrates in the cavity of the heart, and the perforation of the valve reveals the presence of this vibrating body.

3. Oscillation of the venous blood may aid in rendering the vibrations more intense.

4. As to the mechanism of the origin of the murmurs, there is similarity between them and sibilant râles.—*Gazzetta degli Ospitali, Supplemento*, April 5, 1885.

Paralysis of the Bladder Consecutive to the Use of Carbolic Acid in Surgical Dressings.—Cartaz, in the *Gazette méd. de Paris*, 1884, No. 42, reports interesting cases of vesical paralysis due to the use of carbolic acid in surgical dressings. This is one of the various toxic effects of the acid, and has been observed by the writer only twice, occurring in the first instance after irrigation of the uterus with a two per cent. solution of carbolic acid after abortion. The paralysis disappeared on the substitution of corrosive sublimate as a disinfectant. The second instance was met with in the case of an aged woman with fracture of the neck of the femur. The dressings, which were daily changed, were treated with a five per cent. solution of carbolic acid In two weeks there was enormous distention of the bladder, and for forty-eight hours the woman had not urinated. By the catheter about a quart of dark-brown urine was evacuated. In four days the paralysis disappeared, the carbolic solution having been replaced by boracic ointment. There appeared no reason to doubt that in each case the paralysis of the bladder was caused by the drug in question, as in both patients the urine had the color characteristic of carbolic acid poisoning, and the symptoms of paralysis in each case disappeared on abandoning the use of the drug. Only two similar cases are reported, and in these vesical paralysis resulted from drinking a concentrated solution of the acid.—*Centralbl. für Chirurgie*, March 28, 1885.

The Succussion of Liquids in the Stomach.—Dr. A. Rubino gives the following *résumé* of his investigations on gastric succussion:

1. The sounds (succussion) in the stomach produced by digital impulse from light and rapid blows, are hydropneumatic in their origin.

The analogous sound obtained by Hippocratic succussion has the same significance, but is of less semeiological value than the first mentioned, which enables the exact determination of the volume of the stomach—a result impossible with the second.

2. The sounds of gastric succussion may be considered physiological when present under the following conditions:

(*a*) They should not be perceived when palpation is made below a horizontal line passing through the union of the cartilages of the ninth and tenth ribs.

(*b*) They should not be perceived more than two hours after ingestion of liquids, or more than six hours after partaking of mixed diet.

3. With these exceptions, gastric succussion is an index of a diseased condition consistent with gastric inertia, with or without gastric dilatation.

(*a*) When the sounds are heard in the normal region more than two hours after partaking of liquid food, or more than six hours after ordinary diet, it is a symptom of gastric inertia without dilatation.

(*b*) When the sounds are heard longer than normal and below the line indicated, it is a sign of dilatation of the stomach.

4. In some cases dilatation of the stomach may exist and, nevertheless, succussion sounds be not recognized; a condition sometimes observed in phthisical patients suffering from vomiting.—*Gazzetta degli Ospitali, Supplemento*, April 5, 1885.

Vaginal Extirpation of the Uterus.—Dr. Mario Giommi, on the 19th of February, operated upon a woman aged 36 years, for cancer of the cervix by the method of vaginal extirpation of the uterus. Notwithstanding strict antisepsis and every attention to minute detail, the patient was attacked the third day by peritonitis, to which she succumbed one week after the operation.—*Gazzetta Medica di Torino*, April 5, 1885.

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SATURDAY, MAY 16, 1885.

PUMP-WELLS AND IMPURE WATER.

THE apprehension of an outbreak of epidemic disease during the coming season has had the effect of directing attention prominently to the great risk incurred by the use, for domestic purposes, of water contaminated by putrescent organic matter discharged into the soil from numerous sources always existing in inhabited places, and already, in a number of localities, measures have been adopted for averting this cause of danger to the public health. Of the 300 pump wells existing in Brooklyn in 1882, less than 100 remain at the present time, and as most of these have been condemned by the department of health as furnishing water which is unfit for human consumption, they will doubtless be soon abandoned. In St. Louis, the pollution, by the drainage from the numerous cesspits which still remain in that city, of well water used for domestic purposes has excited public alarm, and measures are being discussed for the remedy of the evil.

Col. Ludlow, the Chief Engineer of the Water Department of Philadelphia, has furnished the Board of Health with a list of over 1000 pump-wells and other local sources of supply in the city, which, from their surroundings, are deemed incapable of furnishing pure water. A large number of these wells have already been condemned and ordered to be abandoned, and, in all probability, similar action will be taken with regard to most of those yet to be examined. By far the greatest number of wells are located in the suburban wards, though in thickly populated localities; scarcely any of them are to be found in the old city proper. Originally, they were depended on as the only source of supply; but notwithstanding the city water is now, in most cases, made available, the people still prefer to use the well water on account of its clearness, coolness, and palatability, qualities which cannot be regarded as a test of the wholesomeness of a water.

It is a well-known fact that the ground-water underlying an inhabited district is almost invariably polluted. Leaching cesspools and privy-wells, leaking sewers and drains, stable yards, graveyards, and soakage from defiled surfaces, all contribute to its contamination. The domestic use of water derived from the drainage of a soil saturated with foul organic matter, particularly that of fecal origin, is known to be a frequent means of communicating disease, and the disgusting practice should be exposed, condemned, and prohibited wherever practicable.

The custom of disposing of sewage and of providing for a water supply upon the same premises is more common in towns and villages than in cities, and not infrequently local outbreaks of disease, such, for example, as typhoid fever, have been traced to this fault. The devastating epidemic of typhoid fever now prevailing in the mining town of Plymouth, Pa., is attributed to the use of water contaminated by typhoid excretions. Cholera may be propagated by this same filthy mode of infection. The active measures in sanitation which are being pressed at the present time throughout the country, should embrace, as a leading feature, the investigation of the water supply in every case in which there is a suspicion of its pollution. It should be borne in mind that the ground-water, from which shallow wells are fed, is almost invariably polluted in inhabited places, and that no precautions that may be taken in sinking wells can be depended upon as securing a safe supply.

UTERINE ERYSIPELAS AND ITS EXTERNAL AND INTERNAL IRRADIATIONS.

AT a recent meeting of the Paris Obstetric and Gynecological Society, a paper upon uterine erysipelas and its external and internal manifestations, by BERNUTZ, was presented, which appears in the April number of the *Archives de Tocologie*. In the three cases reported, the erysipelas had its origin in the uterine mucous membrane, and thence extended to adjacent parts; two of the patients had been recently delivered, while the other had not been pregnant for three years. One of the former was attacked ten days, the other the seventh day, after delivery, and in each the disease extended from the uterus to the vulva and adjacent parts. The third patient entered the hospital because of severe metrorrhagia, and was placed near a woman suffering with facial erysipelas. In this patient the erysipelas extended from the uterus not only to the external genital organs and adjacent parts, but also to the oviduct and thence to the peritoneum. While this patient had erysipelas in one ward, three puerperæ in an

adjoining ward, separated only by a vestibule, had septicæmia, all three dying.

In the discussion, Dolèris held that the inflammatory complications of surgical wounds, lymphangitis, and erysipelas in all its varieties, are found with very analogous characters in the newly delivered—that is to say, coinciding with septicæmia. In addition to clinical observations proving the close relationship between puerperal septicæmia and erysipelas, Dolèris called attention to the fact that he had, in 1880, first proved the morphological and physiological identity of certain septic germs found in the two diseases. But he justly remarks that nothing is so vague as the word septicæmia, nothing more difficult than to point out precisely the nature of the poison. The essential thing is not the determination, impossible in the present state of science, of a specific organism for each of the innumerable varieties of infection, but of the indisputable position of the role of the essential pathogenic element, the microbe; for it is from this position that useful prophylaxis and treatment come.

Pajot stated that he had seen two epidemics of puerperal fever, in one of which fifty-six women died and in the other forty-six attacked were all cured. He rejected quinine in the treatment of the disease, and while declaring himself a firm believer in the microbian doctrine, he thought that one should not forget the patient, the different individual predispositions, and even the influence of exterior conditions, temperature among others.

Guérin held that there could not be purulent infection nor septicæmia without microbes; he referred to the marvellous results obtained by the cotton dressing, which filtered the air, thus preventing septicæmia by closing the entrance to microbes. In regard to the use of quinine in septicæmia, he strongly advocated it, stating that there was a remarkable tolerance of the remedy by the disease, and that in one case he had given fifteen drachms in the course of the illness.

It has been held by many distinguished authorities that erysipelas and puerperal fever are identical in nature. That there is a close relationship between the two cannot be doubted when we remember the following facts: The prevalence of the two diseases at the same time in the same places; a fact by no means constant, but which has been frequently observed: the liability to septicæmia of a woman attended in her labor by an obstetrician who is also attending a case of severe erysipelas, or cared for by a nurse who comes from nursing a case of erysipelas; this liability also exists if the puerpera be in a hospital where erysipelas is present: women who have attended to the bodies of those who died of puerperal septicæmia have been attacked with erysipelas. Dr. Churchill, among others, has shown that in many instances the infants of women suffering with septicæmia are attacked with erysipelas. That these accidents may in many cases be prevented, now that the germ origin of each disease is prevailing in the professional mind, there is abundant reason to believe. If this doctrine had been known in the past, how many thousands of lives might have been saved! That some other diseases bear also a close relationship to puerperal septicæmia is also admitted—the germs may be different, but they may be in a common medium, and be conveyed by a common vehicle.

While writing these lines we have visited in consultation a multipara suffering with septicæmia. The physician who attended her has not seen a case of septicæmia for years previously, he has not now nor has he had recently a case of erysipelas, but the patient occupies a room in which two of her children were sick with diphtheria between one and two months since.

PELVIC SPINA BIFIDA.

In *Gaillard's Medical Journal* for March, 1885, Dr. T. Gaillard Thomas describes two extraordinary cases of spina bifida, occurring in women, aged, respectively, twenty-eight and nineteen years, in which the cavity of the sacrum was filled by an adherent cyst. In the first case nothing was done, and the patient was lost sight of; but in the second, operative interference occasioned death. Aspiration of the sac was attended with the escape of eight ounces of a clear, limpid, non-albuminous fluid, and was followed by severe headache, elevated temperature, and a rapid pulse. At the expiration of six months, the cyst was incised and its walls attached to the vaginal opening. Tetanus and other grave symptoms having set in at the end of twenty-four hours, Dr. Thomas suspected that he was draining a sacral spina bifida, and at once sewed up the opening, but death ensued in twelve hours more from heart failure. A post-mortem examination was not obtained.

Although there is no pathological proof in these cases that the sac was formed by the membranes of the cord projecting through a deficiency in the sacrum, the peculiar symptoms occasioned by the evacuation of the cyst in one, and a similar case narrated by Emmet in his *Principles and Practice of Gynæcology*, render the view that Dr. Thomas was dealing with a spina bifida extremely probable, and should put the practitioner on his guard in dealing with cysts in the hollow of the sacrum.

In the case of Dr. Emmet, that of a woman thirty-six years of age, a soft, fluctuating cyst filled the sacrum, and was firmly adherent to the sacral prominence. The aspirator evacuated a clear, limpid, non-albuminous fluid, and death occurred from uræmic poisoning at the end of several days. On post-mortem examination, a cyst, which contained upwards of three quarts of fluid, completely filled the cavity of the pelvis; the three lower bones of the sacrum were deficient on the right side; a funnel-shaped opening

communicated with the spinal canal; and a network of nerves was spread over the inner surface of the sac.

TUBERCLE OF THE TESTIS.

At the recent Congress der Deutschen Gesellschaft für Chirurgie, the proceedings of which may be found in the Berlin Medical weeklies for April, Volkmann, of Halle, read a most important paper on tubercular disease of the various organs and tissues, in which he took the ground, now generally accepted, that, whenever it is practicable, the removal of the diseased part should be practised with the view to prevent general infection.

In the discussion which followed the reading of the paper, there was, however, some difference of opinion in regard to the localization and treatment of tubercle of the testicle, which is worthy of notice. Volkmann himself teaches that, in young subjects, castration should be resorted to, in preference to cauterization, partial resection, and scraping, as soon as possible or before the cord is involved, and the disease has extended to the prostate or bladder. In many cases in his hands castration has been followed by a permanent cure, thereby showing that the affection was limited to the testis itself.

Von Langenbeck, on the other hand, was very positive in his statement that castration was unjustifiable in young persons; that good results were attainable by the employment of antiscrofulous remedies; that castration did not prevent recurrence; and that the enucleation of the diseased lobules was the only surgical measure demanded. Gueterbock stated that he had never seen isolated tubercle of the testicle, but that it was always associated with similar disease of the prostate, bladder, or kidney. He also was opposed to castrating children. Schede, however, held that castration is the best remedy to effect riddance of the disease; but he thought that in many cases the same end can be accomplished by free incision and scraping out the tubercular tissue.

Unless we greatly mistake, we fancy that the majority of surgeons hold the same views as Volkmann as to the infectious nature of tubercle, and support him as to the propriety of the operation of castration, no matter what age the patient may be.

OBSTETRIC PALPATION.

Comparatively little attention has been given in this country to the subject of obstetric palpation. American contributions to it have been very few, and we fear that in many of our medical schools obstetric teachers devote little time to its exposition, or omit all reference to it—treat it in fact, as all English text-books upon obstetrics do. Yet the importance of the subject cannot be easily exaggerated. It not only enables the diagnosis of pregnancy in many doubtful cases to be made, but may permit one to determine whether the pregnancy is single or multiple, and the presentation and position of the fœtus. Approximately at least one who is reasonably expert in obstetric palpation can decide the duration of the pregnancy, and in case some obstruction of the birth canal may render the induction of premature labor necessary, the time for this may be fixed by measuring the length of the fœtus, and thus approximating its size.

In a most admirable paper upon the subject read before the Philadelphia County Medical Society by Dr. Albert H. Smith somewhat more than a year ago—a paper that unfortunately has not been published—this eminent and experienced teacher, remarked in regard to obstetric palpation: For ten years past it has been carefully and systematically taught in every medical school in Europe, being held of as much importance in obstetric diagnosis as vaginal touch in gynecology, or auscultation in the affections of the thorax.

Probably one reason for the neglect of obstetric palpation by teachers has been that it was neglected altogether, or only imperfectly considered, in the text-books used in this country. A brief, clear exposition of the subject in a suitable manual, however, has recently been supplied by Dr. L. E. Neale, of the University of Maryland, who has translated Pinard's well-known treatise upon "abdominal palpation as applied to obstetrics." In a small volume of less than a hundred pages the medical teacher and the medical student can find the subject clearly, plainly, and succinctly presented. The time has gone when any obstetric teacher can fail to instruct his students upon this subject, and do justice to them.

IODINE IN THE NASCENT STATE IN UTERINE CATARRH.

The treatment of catarrh of the cervical canal is often tedious and unsatisfactory, and hence we take pleasure in mentioning a new and apparently quite rational method of meeting this affection. Dr. Brondel, in *Revue Médico-Chirurgicale des Maladies des Femmes*, mentions a case of sterility resulting from cervical catarrh, and the successful treatment of the disorder, and states that iodine is the only remedy which gives satisfactory results He considers that the best way of using the medicine is in its nascent state, as advised by Chéron. The method is as follows: Add two drachms and a half of iodide of potassium and fifteen grains of iodate of potassium to two ounces of water; then, by means of a rod wrapped with cotton dipped in the solution, apply it to the cervical canal; following this application by that of a solution of citric acid, two drachms and a half in two ounces of water,—similarly made. The citric acid solution immediately liberates iodine, and the latter in its nascent state is thus in immediate contact with the diseased part.

SOCIETY PROCEEDINGS.

THE AMERICAN MEDICAL ASSOCIATION.

Thirty-sixth Annual Meeting, held at New Orleans, April 28, 29, 30, and May 1, 1885.

(Specially reported for THE MEDICAL NEWS.)

SECTION ON SURGERY AND ANATOMY.

TUESDAY, APRIL 28TH.—FIRST DAY.

DR. DUNCAN EVE, of Nashville, Tennessee, Chairman, called the Section to order.

DR. JOHN B. ROBERTS, of Philadelphia, read a paper on

FALSE DOCTRINES IN THE TREATMENT OF FRACTURES.

The first custom to which he referred was that of bandaging the limb previous to the application; this is unnecessary. The great point in the treatment of fractures is, not the kind of dressing that is used, but simply the keeping of the parts at rest. Very little ensheathing callus is formed if the parts are held in coaptation. This is proved by post-mortem examinations. The greatest point of dispute is when to begin passive motion. Where the fracture involves the joint, it is important that careful passive motion be commenced at as early a period as possible. Where the joint is not involved there is no need of passive motion and hence it may be delayed, and in his opinion should not be commenced sooner than the fifth week. Passive motion should never be made while acute arthritis is in progress. Again, splints are frequently worn too long. In simple fracture of the lower extremities, the patient should be able to go to his business within three or four weeks after the receipt of the injury, provided a gypsum or other light dressing be applied after the original dressing has been removed. In simple fractures of the fibula, one week of confinement is all that is necessary. In compound, or otherwise serious fractures, a much longer period is required.

Another erroneous view is that which opposes the conversion of simple fractures of the cranium into compound, where the case is obscure and an accurate examination cannot otherwise be made. The danger of the wound is rendered little if at all more serious, and a definite diagnosis can be made.

Another error is in the treatment of fractures of the nasal bones by the application of splints or adhesive strips. The proper method of holding the fragments in apposition is by transfixion with pins. Another error in this connection is the placing of canulæ in the nasal cavities to aid in holding the fragments in position. All of us would prefer breathing through our mouths to breathing through these filthy tubes, which soon become filled with mucus and very offensive, as well as giving rise to a nasal catarrh. Deformities of the nasal bones and cartilages have often become permanent from want of proper surgical treatment. The importance of this feature of the facial line renders its proper study necessary.

The important factor in the treatment of fractures of the clavicle is to apply such a dressing to the sternal end of the bone, as shall prevent it from sliding forward as it would do from the weight of the upper extremity. This is to be accomplished by extending the angle of the scapula, and not by the wearing of an axillary pad, which cannot succeed in holding the bone in position, unless the pad be so large as to render its use unadvisable.

The use of the angular splint for fractures about the surgical neck of the humerus is an error, because it cannot control the movements of the arm, and every such case acts upon the fracture and not upon the joint, since there is nothing to prevent the upper fragment from remaining quiet while the lower is in motion. It is better to use the thorax as a splint, and to place the arm across the chest, binding it in this position, and thus preventing a separation of the fragments, and using no splint on the outside. The fallacy of treating the fractures about the condyles of the humerus, extracondyloid, intracondyloid, etc., by using anterior and posterior splints is apparent when considered. The loss of the "carrying" function of the arm is a common experience. By this loss, I mean the loss of the obtuse angle which we all have between the humerus and the forearm.

In fractures about the middle of the forearm, interosseous pads are seldom required if the fragments are put into accurate apposition, and the arm carried in the prone position.

Another error is the use of the straight splint in fractures of the lower third of the radius. The inner surface of the lower end of the radius is concave and requires a convex splint. The straight splint will do very well for the external surface of the arm, but not for the internal. In many cases reduction without the application of any splint at all will give better results than the application of a splint of any pattern. The teaching with regard to the treatment of fractures of the metacarpal bones is not universal, but it is prevalent. In most cases the fracture can best be overcome by placing adhesive strips over the part attached to the fingers and to a splint placed under the hand, and, if desired, projecting a little beyond the ends of the fingers.

Finally, it is an error to rely upon measurements of the lower extremities for the estimate of the result obtained from our treatment of fractures. It is surprising that although the fact that the extremities differ greatly in length, has been repeatedly brought to the attention of the profession, it is an almost universal custom for surgeons to measure their broken limbs. Very often, too, where there is no natural difference, there is an apparent one from the position of the pelvis when the measurement is taken.

DR. W. F. PECK, of Iowa, stated that it had always been his experience, that it is impossible to pass a tube of any size, even a catheter, into the nasal cavity, when the bones are fractured. The best instrument for this purpose is a conical-pointed director. With reference to fractures of the condyles of the humerus, he had for fifteen years taught the importance of using no splints except for support. He then reported the case of a child whose fracture of the condyle of the left arm he had treated by simply placing it on a pillow at rest, and performing passive motion every day after the third. The result was perfect recovery without deformity.

DR. MUDD, of St. Louis, remarked that the motion of the fragments of a broken bone is largely limited by the tissues surrounding it, and hence the movements of the extremity will be made largely at the expense of the

fractured surface. Passive motion is an aid to the production of ankylosis if practised at any time before the parts have become solid enough to resist the muscular movements. The great point to be desired is the limitation of inflammatory action about the seat of fracture. Control that, and you control the amount of ankylosis of the joint. Put the fragments into good apposition, control the effusion into the joint, and prevent movement, and you get a good result. In fractures of the metacarpal bones, put the parts in position, put the pad near the joint, put on a splint, and bandage it firmly. This is enough to control the fragments. For sake of motion, the splint may be cut short.

Dr. E. P. Cook, of Illinois, stated that in fractures of the lower end of the radius, the application of the posterior splint is all that is necessary. One case of this kind he had treated by applying a closely fitting kid glove to the hand, and a close bandage over the fracture, with direction to lay the arm on a pillow in any position that was most comfortable. The result was perfect. But the question in his mind was whether he was justified in going on and treating all fractures in the same manner.

Dr. Roberts stated that he had not attempted to bring out anything new, but merely to present some of the more common errors for discussion. He agreed with Dr. Peck that many fractures would be better treated without any splints than with the ordinary splints. He further thought that the condyloid fractures of the humerus are best treated in the extended position instead of the flexed, either with or without splints. This he then demonstrated on the board with reference to fractures of the condyles of the humerus, where he showed that the ulna is forced back so as to bear an improper relation to the humerus. In fractures of the upper end of the humerus, he believed it better in most instances to let the arm hang vertically. Sometimes, however, it is better to let the arm fall forward. In many cases we need no splint at all. If we reduce the fracture, the interlocking of the fragments will ordinarily keep the fracture in place. If the fracture is comminuted, however, it should be treated by splints.

Dr. W. P. Verity, of Chicago, next read a paper on

THE TREATMENT OF FRACTURE BY WIRING OF BONES AND FREE DRAINAGE.

He claimed nothing strictly original for his paper, but thought that the combination was worthy of consideration. The wiring of fragments must be done in a thoroughly antiseptic method. The disinfection of the wire and its thorough flexibility can be secured by heating it to a white heat. A drainage-tube is used and thorough irrigation accomplished. Eight cases were reported, in which he had employed his method with the most unvarying success. In some the protruding fragments of bone were sawn off, the fragments adjusted, wired together, drainage-tubes inserted, and the wound dressed antiseptically. Even where the periosteum had been removed, this method prevented the destruction of the bone, which seemed to retain its vitality and remain vascular. Adjourned.

Wednesday, April 29th.—Second Day.

The Secretary, Dr. C. B. King, of Allegheny, Pa., being absent, Dr. P. E. Archinard, of New Orleans, was appointed to act as Secretary.

Dr. H. O. Marcy, of Boston, presented a paper entitled

"DO WE FIND A HITHERTO UNSUSPECTED DANGER TO SURGICAL LESIONS FROM MICROÖRGANISMS IN ENCLOSED CAVITIES?"

He reported three interesting cases in which microorganisms were found in the abdominal cavity.

The first case was one of rupture of a cyst of the ovary following a fall; death was caused by general peritonitis forty hours after the accident. The abdominal effusion consisted of about three quarts of milky fluid, contained micrococci and large bacilli, resembling the anthrax bacillus, and were reproduced by culture.

The second case was one of a large compound ovarian cyst of rapid growth with thin walls, operated on in his private hospital. During the operation, one of the cysts ruptured, and its contents escaped into the abdominal cavity. The peritoneal cavity was washed with a 1 : 1000 solution of bichloride. Death, however, occurred in seventy-six hours, from septicæmia. The autopsy revealed no evidence of peritonitis; there were about two ounces of reddish serum in Douglas's cul-de-sac. This fluid was swimming with micrococci, and in one of the unruptured cysts the same micrococci were found, which were reproduced upon cultivation.

The third case was one of peritonitis in a child aged 4½ years. The abdomen being aspirated, a pint of creamy fluid containing an abundance of micrococci, which, when cultivated, reproduced in pairs—was withdrawn. Later, an exploratory incision was made, and two quarts of fluid removed. The abdomen was washed with a mercuric chloride solution, and closed without drainage. On the twelfth day after, a spontaneous opening occurred, and a considerable quantity of purulent fluid escaped. From that time, the patient made an uninterrupted recovery.

Dr. Marcy asked the following questions suggested by his cases: Are ovarian cysts to be considered no longer closed sacs? How can bacteria enter the unopened abdominal cavity? Have we in cystic fluid a hitherto unsuspected danger?

Most observers have failed to discover micrococci in cystic or abdominal fluid. Experiments show that micrococci may be introduced in the circulation and eliminated by the kidneys without injury; but when there is a blood stasis, as after contusion or local injury, then in certain lowered conditions of the economy we have both the seed and soil for the development of these organisms. This might explain the reason why bacilli were found in the first case, but it would not meet the second case, which was one of an old ovarian cyst.

Dr. W. A. Byrd, of Illinois, stated that these cases reminded him of an interesting case he had in 1882, and which he saw with Dr. Beck, of Illinois. The patient was a negro woman with a cystic abdominal tumor on right side; he diagnosed cyst of right ovary and aspirated three pints of fluid from it. A few days after she had what resembled malarial fever; thinking that it might be best to remove the tumor, he subjected her to the operation after she had rallied from the attack. He opened the abdominal cavity, but found no trace of tumor. The whole peritoneum was studded with millet-seed growths looking like tuberculosis; after making a thorough examination he closed the cavity and in doing

this had a good deal of trouble in bringing the edges of the incision together. The woman made a perfect recovery. The only diagnosis he can suggest for the case, is that it was a hydatid cyst of right ovary which was afterwards absorbed.

Dr. Beck, of Illinois, said that some time ago a lady consulted him with what he diagnosed as a large simple cyst of the ovary; there were no complications, the uterus was of normal size. He advised operation, and she had returned home to make preparations for it. One week after he was telegraphed that his patient was dying. He immediately went to the case, and upon examination found that the tumor was gone; there was general swelling of the abdomen. The history he obtained was as follows: On the preceding night the husband had attempted to have intercourse with his wife, and his weight coming down suddenly on the tumor had caused it immediately to disappear, the lady complained of great pain, and was almost collapsed, in which condition Dr. Beck found her. She however recovered.

Dr. N. Senn, of Milwaukee, Wis., then read a lengthy and highly interesting paper on

THE SURGICAL TREATMENT OF CYSTS OF THE PANCREAS.

After relating a well-observed and studied case which he had treated by five incisions and which resulted in cure, he gave a minute history of the literature on the subject and referred to a number of published cases, and offered the following conclusions:

1. Cysts of the pancreas are true retention cysts.

2. Cicatricial contraction or obliteration of the common duct or its branches and impacted calculi, are the most frequent causes of cysts of the pancreas.

3. A positive diagnosis of a cyst of the pancreas is impossible, a probable diagnosis between it and some other kind of cysts, amenable to the same surgical treatment, is adequate for all practical purposes.

4. The formation of a pancreatic fistula under antiseptic precautions, recommends itself as the safest and most expedient operation in the treatment of cysts of the pancreas.

Dr. Joseph Ransohoff, of Cincinnati, then reported the history of

TWO OVARIOTOMIES ON THE SAME PATIENT,

which will appear in full in an early issue of The Medical News.

Dr. Reed, of Ohio, said that assisted by Dr. Craig, he had removed an ovarian tumor of twenty-five pounds, together with the right ovary, from a woman, and that two years later he had, for the same woman, removed the left ovary with a tumor weighing twenty-eight pounds. He had found the abdominal walls much thinner at the second than at the first operation. The patient recovered, and six months after the second operation married; she has never had a child.

Dr. Warren, of New York, stated that his preceptor had always been in favor of removal of the ovaries in two operations rather than to take them out both at one time. It was pleasant to him to see that modern surgery, as shown by the statistics of Dr. Ransohoff, had come to the same conclusion. He thought himself that it was much better not to remove both glands in one operation, unless they were both found extensively diseased and enlarged.

Dr. Charles Graefe, of Sandusky, Ohio, reported a case of

GIANT GROWTH OF BOTH LOWER EXTREMITIES.

The patient is a young woman of 25 years, of English parentage, who presents an enlargement of the two lower extremities. This enlargement, which is congenital, seems to consist of hypertrophy of all the soft tissues of the parts, together with the bones, as far as it can be ascertained by palpation. The right extremity is larger than the left. The case has been pronounced one of Elephantiasis Arabum, but it differs from that disease in being congenital.

Dr. R. H. Jenkins, of Hogansville, Ga., reported a case of *Chronic Necrosis of the Tibia and Fibula of Ten Years' Duration*, cured by amputation at the thigh. Accompanying the report were the bones, which were very good specimens of the condition referred to, and form valuable specimens.

Thursday, April 30th.—Third Day.

Dr. A. Y. P. Garnett, of Washington, read a paper on

COLO-PROCTITIS TREATED BY THE HOT WATER DOUCHE, AND STRETCHING OR DIVISION OF THE SPHINCTER ANI.

He stated in introduction that he fully recognized the importance of confining himself to the single class of cases indicated by the title and described in the cases reported. Whilst the disease under consideration is usually of long standing, or chronic in its character, it is a pure non-malignant inflammation confining itself entirely to the mucous or submucous tissues, and resulting in some cases in small superficial necrobiotic ulcerations found just within the external sphincters; that such cases are often mistaken for simple dysentery and unwisely treated by injudicious medication as such. Five cases were then reported. The first was of a man previously healthy until two years before coming under observation. During that time he suffered severe pain in the rectum. Examination showed chronic catarrh of rectum, not extending to the colon. An enema of four ounces of a decoction of ipecac with twenty drops of tincture of opium to be used as hot as possible every eight hours, except from midnight to morning. Improvement followed, but the mucous membrane was found thickened and covered by long villosities, vascular and soft. The sphincter was dilated, the villosities removed by scraping, and hot water injections continued. Recovery was complete in fifteen days. In the second case the rectum was too sensitive to permit examination. The sphincter was divided by the knife, the rectum stretched. The patient was greatly relieved almost instantly. At the end of eight days she was discharged cured. The third case had been operated upon for hemorrhoids. A firm constricting band was found just above external sphincter. There was no sign of malignant disease. The hot water douche was used, the sphincters dilated under chloroform, douches were continued, the diet of hot milk ordered, and recovery followed. The two other cases were similar in character, and treated by the methods illustrated in the cases narrated with the same excellent result.

Dr. W. W. Dawson, of Cincinnati, inquired how the author gave hot milk as a diet in the cases which he had reported.

Dr. Garnett replied that he gave it in the quantity of four ounces every four hours and as hot as possible. He stated further that the English surgeons of late leave their patients almost entirely to hot milk.

Dr. Dawson then continued that these are indeed instructive cases. He had had some experience in this affection. He had had the best successes, however, from the use of the knife, liberally dividing all the transverse fibres up as far as the internal sphincter. He then narrated a case that came under his observation after having been under the care of Dr. Van Buren, of New York. He expressed the opinion that the reflex trouble would never be overcome without a division of the circular fibres. The patient, who was a physician, thought that he could stand the operation without ether. As soon as the knife was introduced the patient jumped, and only half the fibres were divided. He thought he was better and notwithstanding his protest, he went home. In a short time he returned and submitted to a complete division of both internal and external sphincters from within outward, under ether. In twenty-four hours that man was entirely changed. He had for years been unable to attend to business on account of the painful affection, but he was already somewhat relieved. In a short time he was back to business and is now robust and healthy. He had succeeded also with the method of Dr. Garnett, but he thought there were cases in which nothing short of a radical operation would relieve the patient.

Dr. Joseph Ransohoff, of Cincinnati, considered the most important feature of the paper the fact that the author had recognized at once the character of the case—that he had located the trouble at once in the rectum. It is a strange fact, that in most of these cases of rectal disease, the pain is not limited to the rectum, but extends also to the transverse, and even the ascending colon. The conditions in the cases reported are not analogous. He thought that, from the description, the first case was one of rectal papillomata. It is not an uncommon, but one of the most incurable affections of the rectum. The condition is analogous to some conditions of the bladder. Everyone has seen cases in which malignant disease, or the presence of stone, enlargement of the prostate, can all be excluded from the etiology of vesical irritation, and yet division of the bladder is the only cure. In similar conditions of the rectum, as we have been shown, division causes absolute rest. Why is it that we have this intense pain when there is little or nothing in the rectum?

Dr. W. F. Peck, of Iowa, remarked that there is very little in the text-books about the size of the rectum or the amount that it should hold. We are directed by good authority that in every matter of doubt as to conditions within the rectum, or even higher up, it is proper to introduce the hand and explore. This direction was carried out by three young physicians of his State. The smallest hand in the party was selected and introduced. Above the third sphincter—which, by the way, very seldom exists—there was found an obstruction. This was removed and the patient relieved, but he recovered with a paralysis of the sphincter. On this account suit was brought for $20,000 against the man who had had the privilege of making the exploration. In preparing to testify on the case, he had been surprised to find so little concerning the capacity of the rectum.

Dr. Dawson remarked that immediately after Simon had published the possibility of this method of exploration and had urged its trial, recommending it for safety and accuracy, it was hoped that it would open up a new and valuable field for diagnosis, especially of obscure tumors in the abdomen. It had not, however, resulted in so great advance as was hoped. He did not think that paralysis of the sphincter should be looked for as a result of the procedure. He then narrated a case that came under his observation about the time of the introduction of the method. It was an obscure case, and it was decided to explore the abdominal cavity in this manner. Several gentlemen present introduced their hands, and all thought they could feel the concave surface of the liver and nearly all the abdominal organs with great distinctness. But, on the following morning, like Asa of old, the patient "slept with his fathers."

Dr. Byrd, of Illinois, thought that the paralysis of the sphincter may depend upon an ulceration of the mucous membrane about the sigmoid flexure. The rupture of one of these strictures, or the presence of an ulcer would leave a point of irritation which, he thought, might cause the paralysis of the external sphincter.

Dr. Ransohoff agreed with Dr. Peck, that the third sphincter is rarely present, if he spoke of it anatomically; but, physiologically, this is incorrect. It is the third sphincter that keeps the bowel constantly empty. He further thought that if the examination were properly conducted in the dissecting-room, the third sphincter would be found. The rectum, when distended, is limited in capacity only by the capacity of the pelvis. How often, in the female, do we have to search, even for the uterus, when the rectum is impacted?

Dr. Owen, of New Orleans, presented a case of

A PATHOLOGICAL GROWTH

in the skin of the left temporal region. He stated that, as it had been removed eight times, the last two operations having been performed by himself, and still the tumor returned, he desired the opinion of the Section as to the character of the growth and the proper treatment to be now adopted in the case.

Drs. Kinloch, Dawson, and Warren, were appointed a committee to examine the case and report to the Section the result.

A paper was then read on

AUTOPLASTY

by Dr. F. Formento, of New Orleans. He referred to the great advancements that have been made in the numerous branches of surgery within the last half century, and more especially the advance that has been made in this peculiar branch within a few years. So great indeed have been the improvements that it has been made a special department. Autoplasty proper is the restoration of tissues taken from the region of the face by disease or injury. In some instances it implies the taking of tissues from other parts of the same individual or from another. Two cases were then reported in which the cheek and a greater portion of the upper lip had been torn away from the face of a young lady, rendering her not only unsightly, but unable to eat or talk on account of the enormous growth of cicatricial

tissue that had resulted. The jaws could be separated only wide enough to admit the end of the little finger. Eight teeth remained in the jaws, but were forced into an almost horizontal position. The dangers of so extensive an operation as that which would be required for the relief of the case were explained as well as the great possibility of the measure failing. The procedure was, however, urged. The first step was to dissect up all the cicatricial tissue in all directions as freely as possible. The large bands were then removed. A flap large enough to cover the denuded surface was then dissected from the neck, a good amount of adipose tissue being taken with it. This was secured to the denuded surface. Several others had to be taken from the neighboring parts before the surface was covered, for so great was the tension that after the cheeks had been as freely dissected from the bones as possible, they could be drawn so as to cover only about a third of the surface. Sixty sutures were required to retain these flaps. These were removed at different intervals, and on the fifteenth day the patient was able to be out of bed.

The second case was that of a woman in this city who consulted a quack cancer doctor for an insignificant wart upon her nose. Caustics were applied, and when the small wart was removed there was left a large hole in the nose many times as large as the original. This did not heal, but gave her so much pain that the sense of smell was destroyed and the Schneiderian membrane was constantly irritated. In the operation for its relief, he dissected up flaps from either cheek large enough to cover the ulcer, after the edges of the latter had been vivified by scraping with the knife and a spoon. The flaps were closely united, and union took place by first intention. The result was perfect.

DR. KINLOCH, as Chairman of the Committee appointed to examine the case of Dr. Owen, reported that the Committee had coincided in their opinion with Dr. Owen, that the case was one of "recurrent fibroid" tumor, or, as it would be called under the modern pathological nomenclature,

A SARCOMA,

involving the periosteum. It was of slow growth, and in the opinion of the Committee, nothing more should be done in the way of extirpation, and only palliative remedies employed.

Adjourned.

SECTION ON OPHTHALMOLOGY, OTOLOGY, AND LARYNGOLOGY.

TUESDAY, APRIL 28TH.—FIRST DAY.

The Section was called to order by DR. J. A. WHITE, of Virginia, Chairman.

DR. FLAVEL B. TIFFANY, of Kansas City, read a paper on

OSSIFICATION OF THE CHOROID, WITH SYMPATHETIC OPHTHALMIA.

The enucleated eyeball preserved in alcohol was shown to the members.

DR. R. E. MURREL, of Arkansas, read a paper on

DETERMINING ERRORS OF REFRACTION BY DOUBLE IMAGES AND PARALLAX.

His methods are very similar to those made use of by Prof. William Thomson, of Philadelphia, in the construction of his ophthalmometer and perforated disks.

DR. HERBERT HARLAN, of Baltimore, reported a

A CASE OF HEREDITARY GLAUCOMA.

The mother of the patient had been attacked by glaucoma at the age of nineteen, and was blind from that disease. The grandfather, great-grandfather, and great-great-grandfather had gone blind at an early age, presumably from the same cause. A maternal uncle and an aunt and two cousins had been affected in a similar manner. Dr. Harlan operated and preserved fair vision. There was some little debate. It seemed to be the sense of the Section that perceptible tension was the exception rather than the rule in simple chronic glaucoma.

WEDNESDAY APRIL 29TH.—SECOND DAY.

DR. G. F. FULTON, of St. Paul, Minn., read a paper on

THE RELATIONSHIP OF ERRORS OF REFRACTION TO HEADACHE,

which was a good presentation of the subject. The prevailing tone of the discussion was that though headaches were often caused by errors of refraction, the correction of which gives relief, very many headaches own other causes which the oculist must not overlook.

DR. ST. CLAIR reported a case of

GLIOMA OF BOTH EYES IN AN INFANT.

Although the growth had become extraocular in both eyes, he enucleated one globe and eviscerated the other orbit. Sixteen months after, the child is perfectly well.

Adjourned.

SOUTH CAROLINA MEDICAL ASSOCIATION.

Thirty-fifth Annual Session, held at Charleston, April 21, 1885.

(Specially reported for THE MEDICAL NEWS.)

THE Thirty-fifth Annual Session of the South Carolina Medical Association was held at Charleston, April 21, 1885.

The meeting was called to order by the PRESIDENT, DR. A. A. MOORE, of Camden, S. C., and addresses of welcome were delivered by Dr. J. Somers Buist, President of the Medical Society of South Carolina, and by the Hon. William A. Courtney, Mayor of Charleston.

DR. MOORE then read his annual address, entitled

THE COUNTRY PHYSICIAN: SOME OF HIS DIFFICULTIES AND CAPABILITIES.

After thanking the Association in graceful terms for the honor conferred upon him in his election and expressing his high appreciation of the same, he explained that he embraced in the expression "country physician," practitioners in towns and villages as well as those in rural districts. He then alluded to most of the difficulties that beset a physician both in and out of the profession. He said it is difficulties such as these that fetter the zeal and energy of the struggling physician. Is there no remedy for these evils? he asked. Can no relief be afforded the hard-worked and half-paid physician by legislative enactment?

The landlord is secured for his rent, the merchant for his advances, the lawyer for his fees, and the common laborer for his wages. Why, then, should not some protection be guaranteed to the physician?

In this connection he called attention to a hardship which the law imposed on the physician, and which bears especially hard on the country physician. We are not unfrequently summoned ten or fifteen miles to attend a coroner's inquest. The circumstances surrounding the murder or sudden death, as the case may be, are such as to make a careful dissection absolutely essential. We are thus called away from our regular duties at the sacrifice of time and labor, and probably more pleasant and lucrative employment, besides incurring the personal risks of septic poisoning, and for all this, exclusive of mileage, we are allowed the large fee of ten dollars. But the trouble does not terminate here, for of course we are subpœnaed to attend court as expert witnesses, where we may possibly be detained a whole week for our testimony and we receive no higher compensation than ordinary witnesses. It appears to him, then, neither inconsistent with his calling nor with the dignity of the Association to demand a proper pecuniary recognition for such services.

There is another difficulty to which I would briefly allude before leaving this part of my subject. We all know that druggists, and especially those of our country towns, often transcend their province and assume the role of physicians by counter-prescribing. This is not only a usurpation fraught with danger to the lives of their patrons, but is a palpable infringement of the rights of the physician which merits our unqualified condemnation.

Dr. A. A. Moore, of the Committee on

PRELIMINARY EDUCATION

for the study of medicine, presented a report of that Committee, which was adopted after amendment, so as to read, "That this Association recommend to its members the necessity of due caution in regard to the receiving of illiterate students into their offices for the purpose of studying the profession, and that, as far as possible, they shall endeavor to have the preliminary education of such students brought up to the standard of a thorough knowledge of English, a respectable acquaintance with history and literature; arithmetic, embracing rules of fractions; geometry, at least three books of Legendre; elements of physics and chemistry, familiarity with Greek and Latin, including their grammars and translations of sentences, as selected from the Commentaries of Cæsar and the Anabasis of Xenophon."

A further amendment was then offered, "That one of the modern languages could be substituted for one of the ancient languages," and the report was then unanimously adopted as amended.

Dr. T. L. Ogier, of Charleston, read an interesting article on

THE TREATMENT OF EPITHELIOMA,

giving the history of three cases which were successfully treated by what is known as Collins's cure for epithelial cancer, modified according to the circumstances of the case. The prescription was the following:

℞.—Acid. carbolic. . . . . ℥ss.
Acid. sulphuric. dil. . . . . ℥ij.
Glycerine . . . . . ℥ss.
Aqua destil. . . . . ℥ij.—M.

S.—Ft. lot.

Very finely powdered fresh ergot, ℥j.

Directions: With the lotion paint the tumor freely with a camel's-hair pencil, and just before it is dry dust freely with the powdered ergot. This to be repeated night and morning. Every second night apply a bread and milk poultice, to keep the surface of the tumor soft. The modification of this is to make the poultice contain equal quantities of bread and powdered ergot, and paint the tumor once during the day with the fl. extr. ergot.

Dr. Charles W. Kollock, of Cheraw, reported the successful

REMOVAL OF A FOREIGN BODY FROM THE VITREOUS

humor of the eye by means of the electro-magnet, without the loss of sight.

Dr. Cornelius Kollock reported

TWO CASES OF OVARIOTOMY

with one recovery. In neither operation was carbolic acid used, except the sutures, which were carbolized.

Dr. Francis L. Parker, of Charleston, read a paper on

TRANSPLANTATION OF THE CONJUNCTIVA OF THE RABBIT TO THE HUMAN EYE, IN A CASE OF SYMBLEPHARON ASSOCIATED WITH CONVERGENT SQUINT.

After which he reported

A CASE OF ANOSMIA, ASSOCIATED WITH CONGENITAL BONY STENOSIS OF THE VOMER WITH NEARLY IMPERVIOUS INFERIOR MEATUS OF THE NOSE; OPERATION BY DRILLING, FOLLOWED BY RAPID IMPROVEMENT IN SMELL.

(Both of these papers will appear in full in future issues of The Medical News.)

Dr. Middleton Michel, of Charleston, read a paper on

EXENTERATION, A SUBSTITUTE FOR ENUCLEATION OF THE EYE,

illustrated by a case of gunshot injury of the eye, in which he had resorted to this procedure to avert sympathetic ophthalmia. (The paper will appear in full in an early issue of The News.)

During a temporary business recess occurring the next day, Dr. Michel operated, before the Association, upon another patient, who three weeks previously had sustained an injury of the eye that had developed serious symptoms of sympathesia, thereby practically exhibiting the character of the new method which he had described.

PARACENTESIS.

Dr. F. Peyre Porcher, of Charleston, reported nine cases (new series) of pleuritic effusion with removal of 709 ounces of fluid; also one of paracentesis in an abscess of the liver. These cases were all seen in the course of four or five months, and were intended to show the unusual frequency of this condition. In the case of the abscess of the liver, twenty-four ounces of pus were withdrawn with recovery.

Dr. E. Miller, of Florence, reported

A CASE OF CÆSAREAN SECTION

in a deformed primipara, who had not sat up or walked since she was six years old and being in her twentieth year, she had spent fourteen years in bed. She weighed about sixty pounds.

DR. A. MEMMINGER, of Charleston, read a paper entitled *Hyperinosis the Cause of Death in a Case of Chronic Parenchymatous Nephritis.*

DR. T. LEGARE, of Charleston, reported the successful treatment of

CHYLURIA

by means of the following tonic:

R.—Tr. ferri chlor. . . . . ℥j.
Syrup hypophosphites . . . ℥ij.
Aquæ . . . . . ad. ft. ℥vj.—M.
Sig.—A dessertspoonful in a wineglass of water.

DR. J. F. MACKEY, of Lancaster, reported

A RARE FORM OF DISEASE

which appeared over a portion of that county, and resembled very much an epidemic of dysentery much increased in malignancy and characterized by a tendency to sudden collapse. The straining and tenesmus were not near so great and distressing as in an ordinary case of dysentery. The distinguishing feature of this disease, however, was the powerful impression made upon the nervous system, producing general congestion, but more especially that of the kidneys with a strong tendency to collapse, as shown by a partial and sometimes total suppression of urine, low temperature, pulse feeble and frequent. Quinine and opium proved to be the only drugs which at all controlled it.

The following were then elected

OFFICERS FOR THE ENSUING YEAR:

President.—Dr. O. B. Mayer, Jr., of Newberry.

Vice-Presidents.—Drs Thomas J. McKie, of Edgefield; H. D. Fraser, of Charleston; T. Munro, of Union.

Recording Secretary.—Dr. W. P. Porcher, of Charleston.

Corresponding Secretary.—Dr. J. L. Dawson, Jr., of Charleston.

Treasurer.—Dr. H. W. DeSaussure, Jr., of Charleston.

MISSISSIPPI STATE MEDICAL ASSOCIATION.

Eighteenth Annual Session, held at Greenville, April 15 and 16, 1885.

(Specially reported for THE MEDICAL NEWS.)

THE Mississippi State Medical Association held its Eighteenth Annual Session in the city of Greenville, April 15 and 16. The Association was called to order by Vice-President Gresham, as the President, Dr. D. L. Phares, was prevented from attending the meeting by illness. Rev. Stephen Archer, of Greenville, delivered the address of welcome, which was replied to by Dr. Hyer. The attendance on the meeting was very small, in fact the smallest ever had. But few reports were received on special medical topics.

DR. PHARES sent on his report on the *Medical Flora of Mississippi*, which was referred, without reading, to the Committee on Contributions.

DR. WIRT JOHNSTON presented a report on *Aspiration*, together with several cases of hepatic abscess and empyema. The relative value of the aspirator and free incision was discussed, and many seemed to favor incision as a possible curative procedure.

DR. ROBBINS, of Vicksburg, reported a case of *Traumatic Tetanus* occurring twenty-four days after operation, with the wound almost completely healed.

Among other valuable contributions offered, were Dr. Brownrigg's on *Fractures*, and exhibition of his apparatus for extension and counter-extension in fracture of the bones of the arm and forearm.

The Association elected for nomination the following for members of the

STATE BOARD OF HEALTH:

First Judicial District.—E. P. Sale, M.D.
Second Judicial District.—John Wright, M.D.
Third Judicial District.—S. V. D. Hill, M.D.
Fourth Judicial District.—J. H. Blanks, M.D.
Sixth Judicial District.—R. T. Edwards, M.D.

All the above were reëlected, with the exception of Dr. Edwards, who was elected to fill the unexpired term of Dr. C. A. Rice, resigned.

The Association, deeming it necessary to have a *State Hospital*, appointed a committee, consisting of Drs. Robbins, Stillwell, Sale, and Todd, to prepare a memorial and present it to the Legislature on the subject.

ELECTION OF OFFICERS

for the ensuing year resulted as follows:

President.—J. B. Gresham, M.D., of West Point.

First Vice-President.—I. B. Pease, M.D., of Concordia.

Second Vice-President.—S. R. Dunn, M.D., of Greenville.

Corresponding Secretary.—M. S. Craft, M.D., of Jackson.

Recording Secretary.—W. E. Todd, M.D., of Clinton

Assistant Recording Secretary.—Geo. K. Harrington, M.D., of Jackson.

Treasurer.—John F. Hunter, M.D., of Jackson.

The Association selected Jackson as its next place of meeting.

MEDICAL AND CHIRURGICAL FACULTY OF MARYLAND.

Eighty-seventh Annual Meeting, held at Baltimore, May 12, 13, and 14, 1885.

(Specially reported for THE MEDICAL NEWS.)

TUESDAY, MAY 12TH.—FIRST DAY.

THE 87th annual meeting of the Medical and Chirurgical Faculty of Maryland was held in the hall of the Historical Society of Maryland, on Tuesday, May 12th, at 12.30 P.M. The PRESIDENT, DR. T. S. LATIMER, of Baltimore, was in the Chair.

After preliminary business the Faculty listened to

THE PRESIDENT'S ADDRESS.

THE PRESIDENT, after a few preliminaries, introduced his subject which was,

THE ORIGIN AND DIFFUSION OF CHOLERA.

He began by stating that this disease is indigenous to Asia and to Asia only. Although it is said that ancient Greek and Roman physicians, as well as Arabian writers, mentioned cholera, an examination into these claims shows that they rest upon an erroneous diagnosis between two similar but distinct diseases. The one, cholera Indica, is communicable and fatal in at least fifty per cent. of the cases, the other, cholera nostra is non-communicable and rarely fatal. In Hindoo writ-

ings we have descriptions of cholera in the 16th and 17th centuries, but they are unreliable because they confuse dysentery, diarrhœa, and colic with it.

The earliest reliable account is that by Gonerat, in 1768–'69, of an epidemic that swept off 60,000 persons in one year. Dr. Latimer referred to other early accounts of cholera, and said that it was almost certain that it had been epidemic in extra-Indian countries before 1817. In this year the disease, which had heretofore been for the most part confined to India, overran the whole peninsula and penetrated almost to the whole habitable globe, numbering its victims by millions. There have been, in all, five pandemics: 1817–1823; 1826–1837; 1845–1853; 1865–1875. The fifth is now in progress. The speaker then proceeded to describe the course of the first two cholera pandemics, going less extensively into the others. The result of a careful investigation of the history of these pandemics shows that each time cholera has left its native home it has occupied more territory, and certainly has not abated its violence. Certain sections have enjoyed notable immunity, as, *e. g.*, Switzerland, several mountainous districts of Scotland, large parts of Greece, and there are examples of smaller localities that have been encircled by severe epidemics of cholera and yet have remained free from the disease, notwithstanding frequent communication with the infected districts.

The fifth and present pandemic commenced in 1883 by an outbreak in Egypt. What this outbreak was has been the cause of much dispute, some claiming that the disease was not cholera, but was only caused by the extremely bad hygienic conditions that prevailed. These unhygienic conditions are allowed on all hands, but, as direct communication can be traced, it seems most natural to believe that this was true Asiatic cholera, especially as the restraints on commerce with infected ports were removed shortly before its appearance.

The question of the contagiousness of cholera is still an unsettled one. The fact that nurses and attendants upon cholera patients are not attacked any more frequently than others, cannot be explained on the theory of contagion. The contrary fact that those who wash the clothes of the sick are very frequently attacked, can hardly be explained on any other theory than that of contagion.

Koch and his followers, who believe that cholera is due to the presence of the comma-bacillus, of course believe also in its contagiousness. But Koch has not yet succeeded in establishing his theory. Similar bacilli have been found in the saliva of healthy persons. Injections of solutions containing dejections of cholera patients into the stomach of dogs have produced no results. Other experiments, in regard to the action of the bacillus on the organism, have yielded negative results. Klein, in India, found a bacillus, exactly similar to Koch's, in drinking water which was being used in large quantities, while the people remained healthy. Koch has an answer to these objections, but yet they throw great doubt upon his theory, which must still be held *sub judice*. It may be that, as Klein thinks, the poison is a chemical one.

Still, even if the comma-bacillus be proven to have no direct influence, there may, nevertheless, be a germ, and the disease may be communicable. It seems very clear that drinking water, whether Pasteur's view be correct or not, has a very direct effect in the causation of the disease, since improvements in the water supply have been followed by most satisfactory results in the diminution of the disease.

There is no doubt that soil-saturation favors the development of cholera, that is, where the saturation, be it of water or of more directly poisonous fluids, is not so great as to prevent permeation of the air. Lowlands are first attacked, also low parts of the cities. Sections resting upon compact stone are apt to escape, whereas, if the subsoil be near enough to the surface to keep the ground continually damp, it renders the locality peculiarly liable to the disease. Soils unfavorable to the retention of moisture, or if completely submerged, do not predispose to cholera.

A very striking illustration of the immunity enjoyed by localities resting on the solid rock, occurred in a small town within walking distance of Toulon. Although cholera was raging in Toulon, and many refugees fled to the neighboring town, which was in a very unhygienic condition, the disease did not break out there, for it had the solid rock underneath.

There are grounds for fearing that cholera may soon visit our shores and come amongst us in this city. Are there any measures to combat the spread of the disease? Quarantine will be tried, but it is a very inefficient protection. The sanitary condition of the city is the most important thing to be attended to. Much of this can be done by the Board of Health, but not all. To be effective, the citizens themselves must be willing to help the authorities. All cellars should be cleaned and ventilated; dirt in and about houses, and in back yards, should be removed. Streets should be well swept, but not swept till after they have been sprinkled. Koch, indeed, says that moisture should be avoided as favoring the growth of the bacilli; but Pasteur says that when dry the particles are more likely to float in the atmosphere. At all events, before the visit of cholera, when it is most important for these precautions to be taken, Koch's objection does not hold good. All these precautions should be taken, especially in low-lying parts of the city. Spoiled vegetables should not lie about the markets. Hucksters should be required to remove the débris from their stalls themselves, and not leave them to be cleaned up afterward. The practice some of them have of emptying their refuse into the gutters during a heavy rain, which is at all times reprehensible, is, during the prevalence of cholera, or even when it is feared, positively criminal. All privies should be emptied and disinfected.

In case the disease should really come, prompt disinfection of the premises where it has made its appearance is of the utmost importance. There is reason to believe that sulphur fires have a controlling influence, though it has not yet been proved. In regard to personal hygiene, the important things to be observed are, cleanliness, moderation in eating, the avoidance of stale vegetables and fruits, not the avoidance of all fruit, since taken moderately they are beneficial. Let the drinking water be boiled before it is drunk. This last is important.

In regard to leaving the city, we must remember that the attendants on the sick are not specially liable to take the disease; flight is expensive, apt to prove unavailing, and, for the physician, is not very honorable.

On motion it was decided to appoint a committee of three to take into consideration the practical suggestions contained in the President's Address, and to recommend the best course to be pursued in anticipation of the cholera, and report at a future session of the present meeting of the Faculty.

TREASURER'S REPORT.

DR. W. F. A. KEMP reported a more satisfactory condition of the treasury than was the case last year. The membership had been increased during the year by nine.

THE EXECUTIVE COMMITTEE,

DR. P. C. WILLIAMS, Chairman, reported that Prof. H. Newell Martin, of the Johns Hopkins University, had consented to deliver the annual oration this year; also that owing to the pressure of lectures, etc., the Trustees of the University had been unable to grant them the use of Hopkins Hall this year. The Executive Committee had, therefore engaged the Hall of the Maryland Historical Society. They were the more satisfied with this arrangement, as they hoped that the Faculty would be willing to make this Hall their permanent home.

THE LIBRARY COMMITTEE,

DR. I. E. ATKINSON, Chairman, reported that they had had much difficulty from insufficient funds. They called attention to the constitution, which provided that one-half the money received by the Treasurer for dues from members should be paid to the Library Committee. They pointed out that this rule was mandatory, and left no option in the matter with the Treasurer. If a deficit resulted from this, it would have to be met by special assessment. They complained that this amount, which belonged by the constitution to the Committee, had not been paid to them in full, and they gave notice that they would at a suitable time in the meeting offer a resolution to the effect that the Treasurer should be required to pay over to the Library Committee, month by month, one-half of the money he has received during the month for dues.

THE COMMITTEE ON MEMOIRS,

DR, JNO. R. QUINAN, Chairman, reported the death of four of the Fellows during the past year, as follows, viz.:

Dr. Riggin Buckler, born 1834, M.D. 1853, died Aug. 30, 1884.

Dr. Daniel Hartmann, born 1818, M.D. 1839, died Dec. 15, 1884.

Dr. Geo. S. Kinnemon, born 1848, M.D. 1874, died Dec. 12, 1884.

Dr. J. Robt. Ward (President State Board of Health), born 1807, M.D. 1828, died April 29, 1884.

A short sketch of each of these was given, and suitable eulogies.

THE COMMITTEE ON ETHICS.

DR. P. C. WILLIAMS, Chairman, reported that, as they had made a full report to the Faculty at a special meeting concerning certain members who had given their public endorsements to a quack medicine, and as the Faculty had acted upon that report in suspending or reprimanding the delinquents, the Committee had deemed it unnecessary to make any further report, as nothing fresh had been brought to their notice.

WEDNESDAY, MAY 13TH.—SECOND DAY.

THE ANNUAL ORATION

was given by PROF. H. NEWELL MARTIN, of the Johns Hopkins University, who chose for his subject

THE PHYSIOLOGICAL ACTION OF DRUGS.

As the object of all the education of a soldier is to enable him to destroy his enemy, so the object, from first to last, of all medical education is to enable him to destroy his enemy—disease. As the science of modern warfare differs from the ancient, so the science of medicine differs from that of the Greeks and the Egyptians; and, as a consequence upon the advance that has been made, we have the establishment of physiological and pathological laboratories, whose object is to enable the physician to fight disease more successfully.

Pharmacology can hardly be said to have existed till the present century. The meaning of the Greek word from which it is derived contains the idea, not only of the use of drugs, but also of the use of spells, poisoning, witchcraft, and sorcery; so that one who practised this art might be a physician, a sorcerer, or poisoner. Even to-day among the laity this idea has not altogether passed away, as is seen in the lingering belief in the seventh son of a seventh son.

Prof. Martin proceeded to outline the progress of the use of drugs from the time when persons seriously ill were exposed in the streets of Egyptian cities in the hope that some passer-by, having seen some similar case recover, might be able to suggest a remedy. But medicine gradually advanced through a long course of empirical research. This method was, as far as it went, sound. But in the middle ages this was replaced by false and absurd sciences and fanciful ideas concerning drugs. He particularly instanced the doctrine of "signatures," which resulted in giving as medicines for various diseases of the body such plants as possessed some fanciful likeness to the parts affected. Hence, we have the names "liverwort," etc. These and other fancies held their sway over the minds of physicians as long as they practised on mere *à priori* grounds without careful investigation. All this time pharmacology as a science was impossible. Even after the time of Sydenham, it had to wait for chemistry to come to its aid. Bichât, early in the present century, pointed out that all organs were composed of several tissues, of which some might be healthy and others diseased, and seems to have noted that the action of drugs on the various organs needed to be investigated. Magendie, his pupil, made the first pharmacological research.

Prof. Martin went on to describe in detail Magendie's experiments with strychnia (upas). He went through the various experiments by which Magendie arrived at the conclusion that strychnia is carried by the blood to the spinal cord, and that it exerts its influence there. From strychnia he passed on to the consideration of chloral, which the Professor said "we owe entirely to scientific research." It is a substance discovered by Liebig, in 1830, when engaged in a purely chemical investigation. It and choloral hydrate remained for years a chemical curiosity, chiefly useful in the light it threw upon the chemical architecture of ethylic alcohol, etc. It was found that, when heated with alkalies, it broke up into formic acid and chloroform. Liebreich, taking

the fact that the blood is feebly alkaline, thought that it might prove of therapeutic value by slowly giving off chloroform in the blood, thus proving a safe anæsthetic, and productive of sleep. This having been tested on lower animals, it was tried on human subjects with success, although the theory on which it was tried is not correct. This is a drug, then, for which physicians have to thank experimental research.

Amyl nitrite is a good example of how many sciences coöperate in adding to the physician's armament. A chemist was employed to extract from a certain make of wine, in the south of France, an oily bitter substance, known as oil of marc, which interfered with its sale. In the course of his experiments on this he discovered nitrite of amyl. For years it was unknown as a therapeutic agent. But other investigators were preparing the way. Prof. Martin then described the discovery by physiological research of vaso-motor nerves, the localization of their centre in the medulla oblongata, and the explanation that these discoveries gave of flushing and pallor. Guthrie (1859) observed that amyl nitrite, when inhaled, caused flushing of the face, and suggested that it might be useful in asphyxia from drowning and strangling. Benj. Richardson (1865), from physiological study, found that it caused dilatation of the smaller arteries and capillaries. It was afterwards found, in a similar way, that the drug lowered arterial tension. Then pathology came in. Brunton lived with a patient who was a victim to angina pectoris. He found from the syhygmograph that arterial pressure was great in this disease. He remembered Richardson's experiments, and let the patient inhale the drug—result, relief in thirty seconds. Other physiologists have verified this action of the drug. Wood says: "It seems useless to speculate how the nitrite acts, but there is now abundant evidence of its value in relieving almost instantly agony which has resisted all other treatment." This has not been discovered by chance, but by scientific reasoning.

Dr. Martin then spoke of the importance of laboratories for the study of the action of drugs on the living body. There is no such institution used *exclusively* for this purpose in the United States. He gave it as his opinion that pharmacology depends upon experiments on living animals. He thought such observations should be tried on the lower animals first, the Bishop of Oxford to the contrary notwithstanding. Prof. Martin went on to explain that it is a great fallacy to think that the chief thing to be considered in vivisection is pain. It is to save life as well as to relieve pain in man. Men and women subject themselves and their children to pain in order to cure deformity or to enhance beauty, which shows that, in their judgment, physical pain is not the worst thing in the world. We wish to increase our effectiveness as physicians, and is not a practice which offers reasonable hope for this, though a hundred—nay, a thousand—animals be sacrificed, and some of them suffer pain, justifiable and right? When we consider the great activity of chemistry in discovering new compounds every year, of their probable value therapeutically, of the diseases that now baffle us, we can see the importance of not hindering scientific research.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, April 20, 1885.

THE PRESIDENT, CHARLES A. LEALE, M.D., IN THE CHAIR.

ON calling the meeting to order, the President stated that since the last meeting the members had received the first volume of the Transactions of the New York State Medical Association, containing more than fifty contributions from those who are daily working in the field of scientific medicine. In referring to the list of membership, we see that before the close of the first annual gathering there were more than five hundred Fellows, representing nearly every county in the State. An incorporated organization developing such vitality during the first year of its existence, demonstrates its necessity, and the great power it has for future usefulness.

The New York County Medical Association is the eldest of the now numerous children of the New York State Medical Association, and as such heartily tenders its congratulations to the parent association on having been able, in so brief a time, to present to each of its Fellows a volume containing so many living thoughts of a living present.

DR. J. LEWIS SMITH then read a paper on

INCONTINENCE OF URINE IN CHILDREN,

in which he stated that the condition is more common in boys than in girls. The enuresis may be both diurnal and nocturnal, but is more frequently nocturnal. At the outset he gave a description of the anatomy of the bladder, dwelling particularly upon the muscular coat with its two layers of unstriped muscular fibres, and their physiological action. He also described the nerves of the bladder, stating that the sympathetic innervation greatly predominated over that derived through the sacral nerves for the spinal cord.

Etiology. Having mentioned that two or more are often present in combination, he proceeded to give eight causes for incontinence, as follows:

1. Too great acidity of the urine, causing undue contraction of the bladder. The acidity is commonly due to uric acid, but in certain instances depends on the presence of lactic and hippuric acids.

2. Increased quantity of urine. Sometimes, when there is no disease present, like diabetes, this is due merely to the too free use of liquids.

3. The presence of a vesical calculus. When there is stone in the bladder, the incontinence is both diurnal and nocturnal.

4. Abnormal contractile power of the muscular coat of the bladder. It was from this increased functional activity, due to too great irritability, that Trousseau was led to classify incontinence of urine in children as a neurosis, and the importance of this cause is shown by the fact that belladonna is useful in so many of the cases of enuresis.

5. Weakness of the muscular fibres constituting the sphincter of the bladder. Incontinence from this cause is rare in those in good health, and is usually seen in the poorly nourished and children suffering from impairment of innervation as the result of disease. It is associated in some instances with incontinence of feces, the loss of power in the sphincter of the anus being no

doubt due to the same cause as that of the sphincter of the bladder. In this connection, he gave the report of a case in which this failure of the sphincters was associated with the presence of spina bifida.

6. Reflex action, through the agency of the nerves supplying other organs in addition to the bladder. There are certain cases of incontinence which depend on structural disease of the spine, the presence of ascarides in the rectum, phimosis, preputial adhesions, etc. In many cases of the latter it is not necessary to perform circumcision, or even to slit up the prepuce, relief being afforded by simply dividing the adhesions, clearing away hardened smegma, and stretching the preputial orifice with a probe. In the out-door department of Bellevue Hospital, large numbers of young children suffering from incontinence of urine are cured in this way every year.

7. Dr. Roberts Bartholow had directed attention to a psychical cause, viz., the child dreaming that it was in a convenient place for urinating, and so yielding to the inclination. That the enuresis is to a considerable extent under the control of the will is shown in cases in which the habit was broken up by the sending of the child among strangers or to boarding-school, where the sense of shame constituted an influence sufficient for the purpose. Numerous instances are on record in which a flogging has permanently broken up the habit.

8. Malformation of the bladder or its appendages. These are sometimes of such a nature as to render the incontinence incurable. Thus, Dr. Thomas W. Madden had reported the case of a young lady who suffered from a constant dribbling of urine, both by day and night, in which he found, on examination, that there was undoubtedly a malformation of the right ureter, which discharged the urine from the kidney on that side directly into the vulva, instead of into the bladder.

Prognosis. This depends naturally on the cause or causes giving rise to the enuresis, but in the majority of instances it can be cured by the adoption of measures appropriate to each individual case. Where the affection is not controlled before, the influence of puberty or of marriage and pregnancy in checking it seems to be well founded, but of course treatment is not to be delayed with any such idea in view.

Treatment. The all-important point is to discover the cause, when the management of the case can be conducted in an intelligent and effective manner. If the trouble seems to depend on the character of the urine, this is to be rendered as bland and unirritating as possible, and Dr. Smith said that since he had recognized the acid character of the urine as a frequent cause of incontinence, he has been able to treat very satisfactorily quite a large class of cases which had formerly proved troublesome. It is his practice to endeavor to render the urine as bland as tepid water. If there is acidity, he gives from three to five drops of liquor potassæ, well diluted, three, four, five, or six times a day, until the urine becomes neutral in reaction, and then continues the alkali in just sufficient quantities to maintain the neutral condition.

When there is increased functional activity the great reliance is to be placed in belladonna, which has the direct effect of diminishing the muscular irritability. The tincture is the preparation commonly used in this country, and of this five drops may be given every night and morning, the dose being increased by one drop each day until the desired effect is obtained or the physiological action of the drug has become apparent. When belladonna is found efficient, it is to be kept up for some weeks in full doses, and the quantity then gradually diminished. This agent has been highly lauded by Trousseau, who used it very freely. Dr. Smith related a case in his own practice in which a girl eleven years old, who suffered from both diurnal and nocturnal enuresis, and who had previously taken belladonna and other remedies, was cured. The urine was highly acid, and the treatment which he prescribed was five drops of liquor potassæ three times a day (or more if this was necessary to keep the urine neutral in reaction), and tincture of belladonna in nine drop doses, the dose gradually to be increased to fourteen or fifteen drops.

If the enuresis is due simply to the large quantity of urine secreted, the liquid food is to be restricted, especially towards evening; and, if diabetes is present, of course the treatment appropriate to that disease is to be adopted. In diabetes insipidus, ergot is found to be of great service. Suspicion of the presence of a stone in the bladder should be excited by painful micturition, increased quantity of mucus in the urine, and the sudden stoppage of the full stream. The use of the sound will render the diagnosis positive, and the stone can then readily be crushed. In many cases of incontinence, it is important to make a careful examination of the parts contiguous to the bladder, such as the rectum and the genital organs, for the existence of ascarides, phimosis, preputial adhesions, hardened smegma, etc.

If the enuresis is due to paresis of the sphincter, a treatment very different from that by belladonna is required, and here ergot, either alone or combined with nux vomica, or its active principle strychnia, is found very useful in restoring the impaired innervation and stimulating muscular contractility. Two years ago Dr. George B. Fowler, of New York, reported two very interesting cases, in which there was fecal incontinence also, treated with ergot in combination with strychnia. In one there was a relapse, which was successfully treated with ergot alone, in the form of the extract, administered in five grain doses by the rectum. Here there was a markedly relaxed condition of the sphincter ani, indicating also relaxation of the sphincter vesicæ.

A considerable number of remedies which had been formerly employed to a large extent for incontinence of urine are now seldom used; but some of them are still deserving of confidence in certain special cases. Among them is strychnia. In children under four years of age, there was some danger in giving this agent, and it is better to employ nux vomica under the circumstances; but above that age it is perfectly safe to administer it. Tincture of cantharides, although as a rule an unpleasant remedy, can sometimes be employed with advantage, if given in small doses. Cubebs and vegetable tonics and astringents are also sometimes called for. Dr. Smith then related a case reported by Eustace Smith, in which he successfully employed drachm doses of tincture of belladonna in combination with bromide of potassium and infusion of digitalis. It is to be remembered, however, that the English tincture of belladonna has only half the strength of the American preparation.

Local treatment is often attended with a satisfactory degree of success, and the best agent for the purpose is nitrate of silver, applied for the cauterization of the neck of the bladder. Having referred to the use of baths and douches, Dr. Smith closed by speaking of the suggestion of Trousseau, that the patient should be required to urinate as frequently as possible during the daytime.

Dr. Wm. Detmold expressed the opinion that in the majority of instances nocturnal enuresis is simply a vicious habit, He thought it advisable to avoid the expression, incontinence of urine, in this connection. The condition is one of enuresis, and not properly incontinence. The habit, however, is an almost irresistible one, and the only remedy which he had found at all reliable for it is to have a nurse sit by the bedside and take the child up every hour or half hour, compelling it to sit upon the pot until it had evacuated the bladder. When the habit is once broken, the cure is generally complete. Trousseau was right, he thought, designating the condition as a neurosis, and if not cured before puberty, it is very apt to be so at that time. There are some instances, however, in which the difficulty is not overcome until marriage. The enuresis is accompanied by a certain sense of voluptuousness, and he had frequently observed the condition in young soldiers, and in unmarried female adults.

There is only true incontinence when the urine dribbles constantly, both by day and night, and this is observed in patients where there was some organic defect, as in the case of Dr. Madden's reported by Dr. Smith, in which the right ureter discharged into the vulva. Ordinary enuresis, therefore, he looked upon as a neurosis or a vicious habit. Whatever produces local irritation tends to give rise to the habit. The irritation of the glans penis, however, might be a result, and not the cause, of the habit, this being excited by the contact of the wet bedclothes. Where medicine has an effect, he is inclined to believe it is simply a moral effect, produced by the fear of the doctor or the nauseousness of the dose. The more unpleasant the remedy, therefore, the more efficacious it is likely to be.

Dr. J. W. S. Gouley said that he thought Dr. Smith's anatomy and physiology needed a little revision. There was no sphincter vesicæ in the same sense anatomically as physiologically; the so-called sphincter of the bladder not being at all comparable to that of the rectum. It had been demonstrated, beyond question, forty years ago that there is no such thing as an anatomical sphincter to the bladder; though there is a distinct physiological one. It is not the circular muscular fibres, but the longitudinal and oblique ones which exert this sphincter-like action. In regard to the compressores urethræ having any power to control the stream of urine after it had emerged from the bladder, as mentioned by Dr. Smith, this is an entire mistake; the physiological sphincter alone having any such control. He agreed fully with Dr. Detmold, that the word incontinence when applied to children who wet their beds is incorrect, nocturnal enuresis being the proper term for this condition. The urine is passed, not because the bladder cannot contain it, but because it has to hold too much. There is rather retention, with an overflow of urine.

Dr. Smith had attributed to Dr. Bartholow something which did not belong to him, as it was Jean Louis Petit, who lived more than a hundred and fifty years ago, who first called attention to the cause of nocturnal enuresis mentioned in connection with Dr. Bartholow's name. Petit stated there were three classes of children who wet the bed: *First*, those who are too lazy to rise and urinate; *second*, those who sleep so soundly that the sensation of desire which precedes the act of urination is not sufficiently strong to awaken them; and, *third*, those who dreamed that they were urinating. Trousseau had added a fourth class, viz., those who through fear would not arise to urinate; but this class of Trousseau's, as well as the first class mentioned by Petit, he thought ought to be excluded, so that there would remain simply the second and third classes just stated.

It will be found that there is usually a considerable accumulation of urine in the bladder, and the most frequent causes of the enuresis are lithuria and polyuria; the latter being often met with in nervous children. Children after they become two or three years old do not wet their clothing through the day, but only at night. In some instances such children retain the habit until they are grown, and he had seen men twenty-five, thirty, and forty years of age, who were still subject to it. No amount of whipping will cure a child of wetting the bed; on the contrary, corporal punishment does harm, and only makes the condition worse. Lithuria is much more common in young subjects than is generally supposed. When this is present, there is not an accumulation of urine, but a constant enuresis, both diurnal as well as nocturnal. Dr. Gouley here related a case in a boy four years of age, who was an epileptic. In all such cases, he said, the trouble will continue indefinitely unless a decided course of treatment is adopted.

He did not agree, therefore, with Dr. Detmold in the idea that treatment is of no service. On the contrary, he believed that there should be both local and general treatment. He thought, however, that it is a mistake to attempt to make the urine as "bland as tepid water," as Dr. Smith spoke of doing. This would only increase the enuresis, as very bland urine, like pure water itself, is known to be irritating to the bladder. Dr. Smith had spoken approvingly of lithotrity in cases of stone; but in children, under the age of ten, this operation had been tried and found wanting, lithotomy being in reality much more safe. As to cauterization, he trusted that Dr. Smith did not mean that this should be done with Lallemand's *porte-caustique*, as he regarded this as excessively dangerous. But in connection with the internal administration of iron, more particularly the old-fashioned tincture of muriate of iron, he had often afforded great relief by the introduction of the sound or catheter every two or three days. As a rule, the steel sound, if skilfully used, was preferable to the gum catheter. In both boys and girls (although the number of the latter that he had seen suffering from enuresis was quite small), he had observed excellent results from this practice, and he did not think Dr. Smith had mentioned the simple passing of the sound. He believed that Trousseau, Vulpian, and Nélaton, had all employed it. Dr. Gouley also spoke of the influence of heredity in the etiology of nocturnal enuresis.

Dr. P. Brynberg Porter called attention to the much greater tolerance of belladonna, proportionally, in chil-

dren than in adults. In the *British Medical Journal* of February 7, 1885, Dr. E. Paget Thurston had reported a case of nocturnal enuresis in a girl seven years old. At first she was given ten minims of tincture of belladonna three times a day; but this had no appreciable effect upon the condition. He then ordered the belladonna in drachm doses, one dose to be taken in the afternoon, and another four hours later, just before going to bed. The second night there was no enuresis; after which only one dose a day was taken, at bedtime, and this was continued for four more nights. The cure was then complete and permanent. He had himself also often noticed, in giving belladonna in whooping-cough and other affections, what large doses children would bear without showing the constitutional effects of the drug. He would like to ask Dr. Smith whether he had had any experience with chloral hydrate in nocturnal enuresis. During the last four years this agent had been highly lauded in this condition, and he had personally tried it in a number of cases in which the affection did not seem to be dependent on any removable local cause. While, however, in certain instances it had seemed to afford partial relief, as a rule, he had been disappointed in regard to its action.

DR. JANEWAY said that from his own experience he could undoubtedly confirm the truth of Dr. Porter's assertion in regard to the very marked tolerance of belladonna in children. He was frequently in the habit of using atropia, rather than belladonna itself, for the sake of accuracy, and sometimes gave no less than one-seventieth of a grain three times a day, while in other cases he gave as much as one-fiftieth of a grain. It was well to remember that we ought not to depend on any set of rules in regulating the dose, but in each particular case to increase the quantity gradually until the desired effect was produced. Trousseau used to give belladonna in exceedingly large doses for epilepsy, as he did strychnia for chorea. Where the enuresis seemed to be dependent on the spinal cord, there being too easy reflex, he had found a combination of iodide of iron, ergot, and belladonna of more service than anything else which he had tried.

DR. C. S. WARD said he regretted that he had not heard a considerable portion of the paper, but it seemed to him that the children who suffered from enuresis could be divided into two great classes. The first consists of those who are poorly nourished, surrounded by bad hygienic conditions, and apt to be scrofulous; and in this class of cases he had found that syrup of the iodide of iron and cod-liver oil, in addition to good food and fresh air, generally prove of much service; so that he could not agree with Dr. Detmold that treatment does no good. The other class of children consists of those who are healthy, well-fed, and active, and in this class belladonna, in connection with chloral, is often the most useful. It is the best plan, however, to attend first to any local trouble that may give rise to the enuresis, and sometimes the use of moral influences is sufficient to break up the habit. In this connection he related the case of a boy with phimosis, who was accustomed to wet the bed at night, in whom the threat to perform circumcision had the effect of working a cure.

DR. F. V. WHITE said that, like Dr. Gouley, he believed that heredity had some effect in causing enuresis.

DR. JANEWAY said that he had neglected to mention that some of the cases were in reality cases of latent epilepsy, in which urination took place during nocturnal attacks.

DR. T. R. VARICK, of Jersey City, remarked that it is very evident that the condition does not depend on any one cause, and it is necessary to investigate every individual case for itself. Many of the cases seem to be due to what used to be called "contiguous sympathy." In one instance, in a child of two years, with a very narrow preputial orifice, he had cured the enuresis by performing circumcision, and he had seen another case, in a boy ten years of age, in which the trouble was dependent on a preputial calculus as large as a bean. Ascarides in the rectum are a not infrequent cause, and he is in the habit of treating this condition by a formula which he learned many years ago from his old preceptor, Dr. John H. Whittaker. Two drachms of aloes are rubbed up with a mint of milk, and given in divided doses by enemata. There is another cure of nocturnal enuresis which is a sort of "old woman's idea," but which he thought may, after all, have some effect, and that is, slapping on the back. It seemed probable that this excites a certain amount of irritability in the trigonum vesica, and the ordinary remedy for it among the common people is to fasten a spool at the small of the back by means of a string passing around the body. As to medicinal measures, he had tried about everything that had been mentioned this evening. When there is a strumous diathesis, in addition to iron, he is in the habit of employing tincture of cantharides, pushed until a slight degree of strangury is produced.

DR. SMITH, in closing the discussion, said that, in his account of the anatomy and physiology of the bladder, he had quoted the views of many of the highest authorities, and for the statement in regard to the action of the compressor urethra, Belfield is responsible. In regard to the rendering of the urine bland and neutral in reaction, the good results which he had obtained since he had adopted this practice were sufficient, he thought, to justify him in continuing its use. He fully agreed with the gentleman who had spoken in reference to the greater tolerance of belladonna in children; as was also the case with arsenic. Fowler's solution can generally be given in as large doses to young children as to adults. In regard to chloral, he said that he had not tried it in this connection; but it seemed to him that, if it were given in nocturnal eneuresis, it would only render the trouble more aggravated by procuring more profound sleep. He agreed with Dr. Varick, that it was very important that a careful study of the probable cause should be made in every case presented for treatment, and on this point he said he could not speak too strongly. In paresis of the sphincter vesicæ, he spoke favorably of the action of large doses of syrup of the iodide of iron.

DR. JANEWAY presented these interesting pathological specimens. The first was one of

DILATATION AND RETENTION CYST OF THE VERMIFORM APPENDIX.

The dilatation of the appendix vermiformis, which was due to occlusion of its orifice, did not extend throughout its entire length, the distal portion of appendix being atrophied. The distended portion was

about three-quarters of an inch in diameter, and it no doubt contained mucus with white flakes of cast-off epithelium floating in it, though it had not as yet been opened. This was the third case of the kind which had come under Dr. Janeway's observation. In the first case which he had seen, the cyst of the vermiform appendix was as large as a fœtal head at term, constituting a tumor which would have given rise to considerable difficulty in the way of diagnosis during life. In the second case the cyst was about six inches long and twice as large in diameter as the present one. From this same patient, who died of cerebellar apoplexy, Dr. Janeway also exhibited the uterus, which showed *Cystic Degeneration of the Endometrium* from atresia of the cervical canal.

Finally he exhibited a specimen of

COLLOID CANCER INVOLVING NEARLY THE ENTIRE STOMACH,

from the pylorus to the cardiac orifice, and affecting all four of the coats of the organ. It had been two and a half years since the first symptom manifested itself, and the patient was a lady of 50, whose father had also died of cancer of the stomach. Pain had been quite a constant feature of the case, and Dr. Janeway had washed out the stomach a number of times with good effect. A portion of the omentum was found to be also affected with colloid cancer.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, May 7, 1885.

The President, A. Jacobi, M.D., in the Chair.

Dr. E. Darwin Hudson read a paper on

THE PHYSICAL EXAMINATION OF WEAK CHESTS AND DIFFERENTIAL DIAGRAMS OF THE SEVERAL FORMS OF EARLY PHTHISIS.

While the profession, he said, had come to regard physical diagnosis in the hands of experts as affording exact knowledge of the conditions of the intrathoracic organs, the interpretation of physical signs can never be dissociated from some theory of the nature of the existing disease, a conception of its pathogenesis and a knowledge of its gross and minute pathology, as well as the pathological processes which determine its consecutive steps or stages, and its periods of transition from one to another form. The views of Bayle and Louis as to the specific nature of all phthisis and its transmission solely by heredity, had not been questioned for fifty years, but the last twenty years have witnessed almost a complete revolution of opinion as to the prominence or causative relation of miliary tubercle in phthisis, and a majority of all investigators and of the profession have come to acknowledge the three forms of phthisis, the catarrhal, the fibroid, and tubercular. In very many cases the disease exists in a mixed form. Our physical exploration is incomplete if we discover only the presence of cavities and softening, or the evidences of local consolidation, and a thorough diagnosis should include, *in extenso*, an exact knowledge of the condition of each portion of the respiratory apparatus, including the air-passages, vesicles, interstitial tissue, and pleura.

The views presented related to the methods of examination most useful in studying weak chests with tendencies to phthisis, in detecting the times of transition from danger to disease, and in differentiating the early forms of phthisis. While recognizing the correctness of the views of Simon, of London, and of Niemeyer and Rindfleisch, observation has also made Dr. Hudson a firm believer in the agency of inflammation as the chief factor in developing pulmonary phthisis, whether in those predisposed by heredity or in those free from such predisposition. He then proceeded to review the essential evidences of the three definite types. Having given an epitomized statement of the main physical signs of early phthisis, as generally held, under two heads (in speaking upon the second of which, he said, that an area of notable dulness or flatness on percussion, and of different conduction of sounds, pointed to fibroid phthisis), he expressed the opinion that many careful students of chest acoustics have come to a recognition of the differentiation of the forms of fibroid consolidation, whether starting from the bronchi, as centric and diffuse, or again, distinctly of pleural origin, and pointed out the signs by which they are enabled to do this.

The first point which he said he desired to discuss with reference to efficient and correct chest exploration was the importance of examining all parts of the chest, from apex to base of lungs—front, side, and back. Two areas, almost wholly passed over by most examiners, often afford most valuable information, viz., the high axillary region and the interscapular spaces. In cases of irregular pleuro-pneumonia, and in certain low and indefinite forms of pneumonia, the initial area of pneumonic consolidation, as evidenced by bronchial breathing, has been found only in the axilla. Dr. Hudson dwelt for some time on the importance of the interscapular exploration. It is here that we have the larger bronchial trunks and the hilus of each lung, close to the posterior wall of the thorax, but in order that this area may be examined with advantage it is necessary that the arms should be crossed in front, each upward at an angle of 45°, and the hand on either side made to grasp the convexity of the shoulder, thus increasing the space more than twofold by rotating and drawing outward the scapulæ, while at the same time the ordinarily thick and flaccid muscles are rendered tense and thin.

In regard to *inspection*, he said that he was convinced that in a large proportion of chest cases, and in a large number of phthisical ones, an approximate diagnosis can be made by inspection alone; the second point of the paper being the diagnostic importance of this method of exploration, and the desirability of extending it, in detail, to all the structures of the thoracic wall. In this connection he called attention to the direction of the clavicle. When the latter is deflected upward and backward at an angle of 30, 35, or 45 degrees, the chest development has manifestly been most defective during a long term of years, and the presumption is in favor of the existence of lungs, undeveloped at their apices, which have never fully occupied the supraclavicular and clavicular areas. With reference to the relation which slight lateral curvatures of the spine have to the condition of the respiratory organs, he said that an inquiry into the history of a considerable number of cases of lateral curvature will elicit the fact that its appearance has been subsequent to the occurrence of a pronounced

attack of pleuritis or pleuro-pneumonia, or a period of long-continued unilateral thoracic pain associated with cough. It is further found, in many of these cases, that the deflection is toward the side of the chest possessing most respiratory expansion, and that the concavity of the primary curve is toward the side presenting slight or notable diminution of respirator motion; while further exploration, by means of percussion and auscultation, establishes the fact that the curved section of the spine lies within a zone of the chest, affording evidences of thickened pleura, fibroid phthisis, or peribronchial consolidation. The third consideration, which he presented under inspection as pertaining to early phthisis, was the importance of closely observing and interpreting, with their full significance, the changes in the individual intercostal spaces, and also in the supraclavicular space, suprasternal notch, and epigastrium. The special significance of the information thus elicited was in regard to fibroid areas and bronchial distortions, which could not be dissociated from the study of phthisis, since they form a part of it, determining, as they do, the recurring hyperæmia and catarrhal processes which terminate in inflammatory infiltration and ultimate caseation.

Before dismissing the subject of chest inspection, Dr. Hudson stated his views as to the causative relation of the non-development of the chest-wall and its movements to phthisis. He believes that the disease attacks the apices preferably, because, 1st, the apices are so frequently enfeebled by contraction of the upper part of the bony thorax—whether by want of muscular activity and development, or by rounded shoulders, through carelessness and indolence, or through confining work at desk or trade. 2d. That the apex region in this enfeebled condition is soonest reached and most easily invaded by the frequent recurring catarrhal inflammations, descending from the larynx and trachea, 3d. Because the apices, when invaded by hyperæmia or catarrhal processes, are unfavorably affected by the energetic forces of cough. Dr. Hudson did not dwell on *mensuration* or *palpation*; though, in regard to the latter, he said the method was particularly valuable as relates to the subject of fremitus, and fremitus was especially instructive for negative diagnosis, often indicating the normal chest by a characteristic vibration communicated to the hands which could not be misinterpreted.

In speaking of percussion, he said that the exclusively pulmonary origin of percussion sound was readily disproved; this being most easily accomplished by referring to the percussion note of emphysema, when the overlying bony thorax is in a state of inspiratory fixation, and so tense or rigid that it does not vibrate; so that the contact of the percussing finger-tips elicits a sound relatively high in pitch and devoid of vibration or duration. When the chest-wall is poorly expanded, or when fibroid phthisis or bronchial rigidity have transferred respiratory action to the diaphragm, the motion of the ribs lessens, and the disused ribs become more or less fixed. Under these conditions, percussion of the entire chest frequently elicits only an unsatisfactory and negative sound, devoid of diagnostic features; but, on the other hand, in many cases thickening of the pleura may cause such absolute percussion-flatness as to warrant the inference of a solidified, phthisical lung. The conclusion is, therefore, that in contracted chests, and in the mixed forms of early phthisis, percussion leads to no positive diagnosis until supplemented by auscultation.

Dr. Hudson then dealt for some time on the significance of the special cutaneous reflex often found in phthisis, first described by Stokes in 1830, and designated by Lawson Tait, in 1871, as *myoidema*, or muscle tremor. The result of his personal observations is (1) that it is usually present in established phthisis, when the long-standing and progressive intrathoracic disease has wasted the body; (2) that it frequently exists in incipient phthisis; and (3) that it is exceptionally present in any other disease, and its presence in such a case justifies a suspicion of phthisis.

In treating, finally, of *auscultation*, he said that the absence or modification of the vesicular murmur has always, and properly, been regarded as a first warning of phthisis; but the presence or absence, fulness of development or enfeeblement of the vesicular murmur is not of so great value in differentiating the three forms of phthisis, and especially the relative properties of each in mixed phthisis. The crippling lesions, in many cases, have so contracted the chest, diminished its expansion, and lessened the velocity and force of the incoming inspiratory currents, that but little respiratory sound is developed to be conducted. Under such circumstances, the phonated voice supplies us with a sound produced quite independent of chest rigidity, diminished expansion, and enfeebled air-currents. But the vibration of the bronchi, the lung parenchyma, and the chest wall, by the full voice often gives no indication of the presence of the lesser lesions of early phthisis; and it is necessary to employ the whisper instead. For a long time he has come to regard the study and application of the conducted whisper as of equal or greater value than the study of changed vesicular murmur and conducted voice, and of far wider application in determining and differentiating the early steps of the three definite forms, and the many mixed cases of phthisis. Thus, at the apex the low-pitched whisper, changed by transmission through the pulmonary media to a high-pitched sound, is diagnostic of incipient infiltration; but the non-conduction of such a low-pitched whisper—silence only, or the distant transmission of a high-pitched whisper—when associated with transmission of the voice unchanged in quality and pitch, point to peribronchial thickening or centric fibroid of limited extent; while the non-conduction of both the low- and high-pitched whispers, and a distant full conduction of the voice, point to a fibroid nearer the surface, or progressing inwards from a thickened pleura. When the smaller tube of the stethoscope is used in connection with the high-pitched whisper, close comparison of adjacent limited areas can be made to great advantage, and the whisper tests are especially of value in distinguishing a healthy lung from one but slightly diseased. The conclusion of the paper was devoted to the subject of hæmoptysis, and to the interpretation of local areas of crepitus.

Dr. Alfred L. Loomis said that while he might not agree with the author in every particular, in the main he could heartily endorse all the positions taken. In speaking of inspection, he stated that in 1200 or 1500 chests which he had examined, but 10 per cent. were perfectly symmetrical; but, at the same time, he thought

that by a careful inspection of the whole chest certain information could be obtained which could not be derived from any other source. For a long time after he commenced the study of diseases of the chest, he had regarded, as he had been taught, the infraclavicular region as of special value for inspection; but later he had come to understand that the scapular spaces are of much more importance in this connection, and many and many a time he has found here the early signs of phthisis which could not be detected elsewhere. The axillary spaces are also invaluable to the diagnostician. He spoke also of the various other methods of physical exploration, and said that he would be inclined to lay more stress on the value of percussion than Dr. Hudson had done. Percussion, however, is to be rightly practised, and a single light, though firm tap, will often give more knowledge of the exact amount of infiltration present than can be gained by auscultation, especially in the scapular space. Like Dr. Hudson, he believes that the whispered voice is of far more importance than the spoken. The vesicular inspiratory murmur he also thought of significance; and there are three modifications of it which may throw light on cases of early phthisis, viz., softness, harshness, and interruption. If the murmur is full as well as harsh, it indicates pleuritic changes, probably tubercular in character. By the peculiar harshness observed in the vesicular murmur, he has detected the presence of acute phthisis in many cases, before the easily recognized signs of the disease had appeared.

Dr. Page fully concurred with Dr. Hudson as to the importance of the diagnostic value of myoidema, and he said that he has now a case under observation, the future course of which he will watch with great interest. This is a lad, fifteen years old, in whom this sign is well-marked, though there is as yet no positive sign of phthisis. He has, however, a hacking cough, and both his temperature and pulse constantly remain considerably higher than normal.

Dr. E. G. Janeway said in reference to myoidema, that he had studied the matter sufficiently to be convinced of the unreliability of the sign from a diagnostic point of view. There are various muscles all over the body which when tapped will exhibit this phenomena in emaciated patients, and it is especially well marked over the biceps and deltoid. It is not often observed in other diseases than phthisis, because in them the physician is not likely to tap the chest. He believes that it is purely muscular, and that it can be developed in many other localities than the chest, and in many other affections besides phthisis. As to the ordinary physical signs in the early stages of the disease, the most that we can make out by them are condensation, thickening, consolidation, and local bronchitis. The special significance of these conditions it is not always easy to determine, and the chances of error have always to be taken into consideration. While all the signs have their value—palpation perhaps the least of any—they are all liable to mislead at times. There are, however, some others of importance to which allusion has not been made. In cases of doubt it is sometimes very useful to employ percussion during inspiration, during expiration, and in the interval. He is inclined to lay more stress on irritation of the bronchi than Dr. Hudson had done. Râles in the smaller bronchi, limited to supra- and infraclavicular spaces, are of great significance. When there is evidence of consolidation, it will not do to trust to one examination, since not infrequently pneumonias occur at the apex of the lung. Such pneumonias run a characteristic course, and are apt to leave untouched the anterior portion, involving the posterior and middle part of the upper lobe. At the present time he said he is not willing to make a positive diagnosis without resorting to the microscope. The character and number of bacilli present in any given case are of great importance in establishing the kind of phthisis from which the patient is suffering. Such microscopic examinations should always be conducted with great deliberation and care, and by the best methods, as there are a number of sources of error which are liable to mislead. Dr. Janeway also spoke of the great importance of careful inquiry into the past history of the patient. The signs of early phthisis may be present, and yet a thorough investigation of the case show that they are simply evidences of a bygone disease which had existed several years before in the lungs.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

Stated Meeting, April 23, 1885.

The President, E. O. Shakespeare, M.D., in the Chair.

NOTES ON THE MORBID ANATOMY OF PNEUMONIA.

Dr. Osler read a paper summarizing his experience while pathologist at the Montreal General Hospital. Of 105 autopsies in cases of lobar pneumonia of which notes were available, five were discarded for various reasons. The mortality at the hospital is high on account of the large percentage of grave cases which are admitted; very many in persons debilitated and dissipated.

Of the hundred cases seventy were males and thirty females. Of ninety-four instances in which the age was given, there were eleven case under twenty years; twelve between twenty and thirty; eighteen between thirty and forty; twenty-one between forty and fifty; twelve between fifty and sixty years; and twenty cases over sixty. In fifty-one cases the right lung was affected; in thirty-two the left; in seventeen both. Other details were given of the various lobes affected. The heaviest lung weighed was 72⅓ oz., and in eight instances the affected organ weighed over 64½ oz. In about fifty per cent. of the cases there was red hepatization; in thirty per cent. mixed red and gray; and in about twenty per cent. gray hepatization. The condition of the pleural air passages, bronchial glands, and unaffected portions of the lung tissue, was described. Among the terminations there were four instances of abscess formation; three cases of gangrene; and one in which there was a process of fibroid induration beginning in the lung. This case was a man aged 55, admitted with pneumonia of the right lung five days after the initial chill. Resolution did not occur, and he died in the fifth week. *Post-mortem:* The right lung was found solid, grayish in color, and in many areas the tissue had a smooth, homogeneous, translucent aspect, and in these a fibroid change was going on; the alveolar walls were thickened, and the fibrinous

plugs in the air-cells seemed undergoing transformation into connective tissue (a slide was shown illustrating this). There were no caseous portions and no tubercles.

As to the other organs, the frequency with which large, firm clots were found in the heart was specially dwelt upon. In only 35 instances was the spleen much enlarged. In 1 it weighed 21½ oz. In 25 per cent. there were marked fibroid changes in the kidneys. Of the complications, there were 5 cases of pericarditis and 16 cases of endocarditis. In 8 instances the meninges of the brain were inflamed, in 5 of them associated with ulcerative endocarditis. In 5 instances there was acute croupous or membranous colitis, and in 1 instance croupous gastritis.

Dr. Tyson, in the discussion of Prof. Osler's paper, said that he had been rather incredulous of the termination of croupous pneumonia in fibroid induration, but the specimen exhibited by Dr. Osler demonstrates conclusively that such a condition exists. The facts presented in the paper are such as are not generally collated. Collective reports of autopsies in cases of particular forms of disease are of great value in the study of pathology.

Dr. Formad asked Dr. Osler why his was not a case of acute phthisis. Croupous pneumonia is a very common accident in acute phthisis. It is croupous pneumonia which causes death, which is well shown by recent investigations of Mercur, of the University of Pennsylvania. Dr. Formad did not believe that croupous pneumonia can last five weeks.

Dr. Shakespeare said that the remarks of Dr. Osler about the frequent existence of very firm clots in the right heart, extending into the ventricles, can be corroborated by any one who makes autopsies of cases of pneumonia at hospitals. He had seen them in cases of phthisis quite as extensive and firm, reaching into the vessel going to the affected part of the lung. It is interesting to note the systemic involvement of these cases of croupous pneumonia, and the affection of internal organs as well as lungs in the process which has been regarded as a local disease. We have to do with a general wide-reaching affection rather than local inflammation.

The opinion was advanced by Dr. Osler that the exudation in the air-cells organized, that the process in the organization of croupous exudate is similar to that in the clot in arteries after ligation, and that comparison was the point which Dr. Shakespeare wanted to bring out.

Dr. Shakespeare said that he did not believe that a blood-clot in a vessel ever organizes, and his opinion is based on facts detailed in an investigation, which he has published, on the healing of arteries after ligature. The vessel healed not by the agency of the white cells caught in the meshes of the reticulum, but by proliferation of the endothelium of the tunica interna and subjacent connective tissue cells. He thought there is reason to believe that there is in this process in the lungs an analogue of the processs after ligature.

We have to do with an outgrowth of the interalveolar walls. The ground which Dr. Shakespeare takes is purely that of analogy to the process in a blood-clot in a ligatured artery.

Dr. Osler, in closing the discussion, said that it is well-known that croupous pneumonia may persist five or six weeks, or even longer, before resolution takes place. It is difficult for anyone, who has not had the experience, to realize the anxiety which such a case may cause. He had reported two such cases of delayed resolution, one in the fourth week and one in the eighth, both with perfect recovery. He is quite aware of the difficulty in distinguishing certain cases of acute phthisis from pneumonia, and had seen a case with Dr. Ross, in which the diagnosis was for some time in doubt, but in the case in question the person had been under observation from the onset, and the symptoms were those of ordinary pneumonia.

Post-mortem, there were no caseous masses, no miliary tubercles, only the condition already described. The termination in fibroid induration, though rare, is perfectly well recognized. In Cornil and Ranvier's *Manual*, as well as in Green's *Pathology*, is a figure which might have been taken from the slide under the microscope.

NEW YORK SURGICAL SOCIETY.

Stated Meeting, April 28, 1885.

The President, Robert F. Weir, M.D., in the Chair.

COMPLETE PARALYSIS OF THE RIGHT TRIGEMINAL NERVE.

Dr. T. M. Markoe, presented a man, about fifty-five years of age, whose case was interesting principally from an anatomical and physiological point of view. The patient denied positively any syphilitic antecedents, and there was nothing at present calculated to excite suspicion except some superficial ulcers on the lower part of the leg. About eight years ago he began to have pains on the right side of the head, which, in the course of two years, took on a severe neuralgic character, the entire right side of the face being affected. The neuralgic character of the pains subsided gradually, and gave place to a feeling of numbness and insensibility on that side of the face. There is now complete anæsthesia in the region of distribution of the right trigeminal nerve. The sensation in the tongue had been carefully tested by application of chloroform and nux vomica, and complete insensibility found to exist upon the right side, while sensibility on the left side appeared normal. The right eye is also insensitive to the coarsest touch. The man can rub his finger over the cornea without feeling it. In addition to paralysis of sensation, there is also paralysis of motion in the muscles supplied by the trigeminal, the temporal and the masseter muscles being very markedly atrophied. Mastication is exclusively performed by the muscles of the left side, nutrition seems to be perfectly maintained in all the paralyzed parts, but about two years ago a little pimple formed on the margin of the right alai nasi, which ulcerated slightly and then disappeared. Following this, however, there has been a gradual disappearance of tissue about the ala, until now it is almost entirely absorbed, leaving a large and very deforming opening into the side of the nostril.

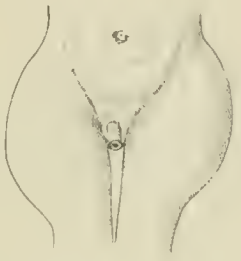
In considering the probable seat of the lesion of the trigeminal nerve, Dr. Markoe thought it must lie between the emergence of the nerve from the pons Varolii and its entrance into the Gasserian ganglion. If the

lesion were within the brain or pons, there probably would be other manifestations.

Attention was also called to the scarcity of the moustache on the right side, and to its whiter color.

UNUSUAL ABSCESSES CONNECTED WITH SPINAL DISEASE.

THE PRESIDENT presented a boy (with illustration), eight years of age, who exhibited unusually large ab-



scesses over the trochanters and upper two-thirds of both thighs resulting from spinal disease in the lumbar region, which latter began four years ago, and two years later the swellings over the anterior portion of the external iliac and trochanteric regions began to make their appearance, and increased in size until at present they are each as large as a loaf of bread. Examination per rectum showed that the matter had worked its way down on either side of the projecting surfaces of the sacrum, and had passed out through the sciatic notch.

DR. LANGE asked what was the proposed form of treatment.

THE PRESIDENT replied that, inasmuch as the abscesses were increasing in size, and the patient's condition deteriorating, he intended to open and drain them, one at a time, under full antiseptic precautions.

NEWS ITEMS.

CANADA.

(*From our Special Correspondent.*)

ONTARIO MEDICAL COUNCIL.—The election for members to the Council will be held May 26. It is expected that there will be quite a large number of new men elected to fill vacancies caused by resignations, and that many of the old members will have difficulty in securing reëlection.

ONTARIO MEDICAL ASSOCIATION.—The fifth annual meeting of this Association will be held in London, Ontario, June 3d and 4th. Many interesting papers have been promised, and discussions in the following subjects are announced: Diphtheria, plaster splints, intrauterine medication; and uses of cocaine hydrochlorate.

Dr. A. Worthington is President of the Association for this year.

PUBLIC OPINION ON THE ACTION OF THE ASSOCIATION ON THE ORGANIZATION OF THE INTERNATIONAL MEDICAL CONGRESS.—The recent action taken by the American Medical Association is no more effective than would be a pope's bull against a comet, and was an untimely and over-zealous effort to undo what had been placed in charge of a Committee previously elected to discharge, without restriction, a special duty. The resolution which created the Committee does not ask it to report, thus showing clearly that it was the intention of the Association to give it full executive power. The work which it has performed should be accepted without special dissent by all who have any interest in the forthcoming meeting of the International Medical Congress, as its success depends upon its remaining undisturbed. The grievances which were presented at New Orleans are too trivial to require serious comment. The sources from which they came, and which coaxed the Association into performing a meaningless act, give no guarantee that the work can be any more satisfactorily performed than it has already been.—*Medical Record.*

Just as it had begun to appear that the Committee had achieved something tangible in the direction of doing away with the difficulties to which we have alluded, by an unusually representative and creditable organization, comes this shameless attempt by a few soured men to throw cold water on the whole affair.

It was not that the malcontents cared a fig to oust any man on account of his ethical proclivities or the place of his residence; they simply wanted the "ins" to be made "outs" in order that they themselves might become "ins." To accomplish this purpose, they naturally seized hold of the most promising pretexts, and the event proved the depth of their cunning.—*New York Medical Journal.*

The only subject on which action was taken of doubtful propriety, was in relation to the proposed International Medical Congress of 1887.—*Journal of the American Medical Association.*

A score somewhat above the customary high-water mark was made, in consequence of a breeze stirred up by certain unhappy critics relative to the preliminary work of the Executive Committee of the coming International Medical Congress.

Whatever may be the substrata of the grounds for the vigorous protest of Dr. Shoemaker and his supporters, there would seem to be nothing at the surface in the published "Rules and Preliminary Organization" of the Committee that could warrant the accusation that it had made a bargain with the New Code men, nor does a closer scrutiny of the document bring to light aught to discount Dr. Billings's statement that, "Whether the Committee had acted erroneously or not, it had acted to the best of its ability and with pure and honest motives, the character of its members being the best guarantee of this assertion."

A glance at the "Rules and Preliminary Organization" shows that twenty-nine States, the District of Columbia, and Canada, have been honored by the appointment of one or more of their distinguished physicians as members or officers of the Councils and Sections. . . . . It is true that the territories, several of the States in the far West, and two of the Southern States are left out of the count, but so also are two Eastern units of our Union, one a Middle and the other a New England State.

When the relative importance of the great cities of the States as medical centres and conservators of medical talent is taken into account, this distribution of honors, though not above criticism, cannot be counted unjust, and we believe that the list in the main, though savor-

ing somewhat of petroleum and codfish, will be found to be fairly representative of the profession in America. —*Louisville Medical News.*

RULES GOVERNING VIVISECTION ADOPTED BY THE UNIVERSITY TRUSTEES.—The Trustees of the University of Pennsylvania have adopted the following rules in reference to vivisection :

1. Experiments may only be made on living animals for the purpose of serious inquiry, or for giving instruction of importance.

2. Experiments on animals are only permissible during lectures, so far as they are necessary for the lecturer to explain his subject matter.

3. The operative preparations for the lecture experiments are, as a rule, to be made before the commencement of the demonstration, and in the absence of those attending the lectures.

4. Experiments on animals may only be performed by the professors and lecturers or on their responsibility.

5. Experiments which can be made on the lower animals without essentially prejudicing the results required are only to be performed on those, and not on the higher animals.

6. In all cases, whether for research or instruction, in which it is not absolutely incompatible with the object of the experiment, the animal must be put under the full influence of anæsthetics, in such a manner that the effect of the anæsthetics shall last for a sufficient time.

These are substantially the rules issued by the Prussian Minister of Education and are founded on very careful inquiries made upon the practice of the German Universities. The Trustees, in adopting these rules for the control of all persons in the University who may have occasion to employ animals in research or for illustrative use in lecturing, expressed the desire that the professors concerned should see that they are strictly enforced, and gave them authority to refuse the use of laboratories to persons who do not obey the regulations.

THE PHILADELPHIA POLYCLINIC.—Dr. B. F. Baer, President of the Philadelphia Obstetrical Society, and late Demonstrator of Diseases of Women in the University of Pennsylvania, has been elected Professor of Diseases of Women and Children; and Dr. H. Augustus Wilson has been elected Professor of Fractures and Dislocations, and Secretary of the Faculty.

NOTES AND QUERIES.

HEMORRHAGIC MALARIAL FEVER.

To the Editor of THE MEDICAL NEWS.

SIR: In your issue of May 2d, is a synopsis of the proceedings of the Louisiana State Medical Society recently held in New Orleans, in which I am reported as saying in a discussion of the paper read by Dr. I. J. Newton on Hemorrhagic Malarial Fever, "that several cases in his (my) parish treated with large doses (quinine) had died. He (I) related a case of malarial hæmaturia in which there was no fever, but rather a subnormal temperature. He (I) had used diuretics, such as nitre and copaiba, and after the attack small doses of quinine."

I beg that you will allow me, through your Journal, to correct this error *in toto*, as it does me great injustice and misrepresents my views in the treatment of this disease from beginning to end. The reporter has unintentionally substituted my name for that of some other speaker. I did not participate in the discussion of the paper at all, so far as regards the treatment indicated. But the writer, in tracing the history of the disease, fixed a knowledge of its first appearance in this country about 1846 in the State of Georgia. In reference to this point, I did state that as early as 1837 and up to 1843 I encountered and treated many cases of this disease in the Wabash and White River bottoms in the States of Indiana and Illinois, and from 1843 to 1846 in the White River lowlands in the State of Arkansas, and that in each of these localities where I practised at the periods named, I found this disease more or less prevalent every year.

Yours very respectfully,
RICHARD H. DAY, M.D.

BATON ROUGE, LA.

TREATMENT OF CROUP.

To the Editor of THE MEDICAL NEWS.

SIR: An editorial in your last number has honored me by referring to my views concerning the treatment of croup. Some of the statements contained therein are rather incorrect, so that I beg the privilege of referring to it in a future issue of your Journal, and detailing, briefly and compactly, all I have to say on the subject.

Very respectfully yours,
A. JACOBI, M.D.

110 W. 34th ST., NEW YORK, May 11, 1885.

We shall be most happy to give space to Dr. Jacobi's intended article —ED.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MAY 5 TO MAY 11, 1885.

MCKEE, JAMES C., *Major and Surgeon.*—Sick leave of absence still further extended four months on surgeon's certificate of disability.—*S. O. 105, A. G. O.*, May 8, 1885.

BILL, JOSEPH H., *Major and Surgeon.*—Ordered for duty as member of Army Medical Examining Board, New York City, N. Y.—*S. O. 100, A. G. O.*, May 2, 1885.

SPENCER, WILLIAM G., *Captain and Assistant Surgeon.*—From Department of the East to Department of Dakota.—*S. O. 100, A. G. O.*, May 2, 1885.

BRECKEMIR, LOUIS, *Captain and Assistant Surgeon.*—From Department of the East to Department of the Platte.—*S. O. 100, A. G. O.*, May 2, 1885.

DAVIS, WILLIAM B., *Captain and Assistant Surgeon.*—From Department of Dakota to Department of the East.—*S. O. 100, A. G. O.*, May 2, 1885.

STERNBERG, GEORGE M., *Major and Surgeon.*—Detailed to attend, as a delegate on the part of the Government of the United States, the Sanitary Conference to be held at Rome, Italy, on May 15, 1885.—*S. O. 103, A. G. O.*, May 6, 1885.

BROWN, JUSTUS M., *Major and Surgeon.*—From Department of the East to Department of the Platte.—*S. O. 105, A. G. O.*, May 8, 1885.

DEWITT, CALVIN, *Captain and Assistant Surgeon.*—Ordered to Department of the East.—*S. O. 105, A. G. O.*, May 8, 1885.

COWDRAY, STEVENS G., *Captain and Assistant Surgeon.*—Assigned to duty as Post Surgeon, Fort Bliss, Texas.—*S. O. 65, Department of Missouri*, May 2, 1885.

DELOFFRE, A. A., *Captain and Assistant Surgeon.*—Assigned to duty at Fort Sisseton, Dakota Territory.—*S. O. 46, Department of Dakota*, May 4, 1885.

WYETH, M. C., *First Lieutenant and Assistant Surgeon.*—Ordered for temporary duty at Fort Wadsworth, N. Y. H.—*S. O. 95, Department of the East*, May 6, 1885.

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the NEWS *should be addressed to No. 1004 Walnut Street, Philadelphia.*

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. XLVI. SATURDAY, MAY 23, 1885. NO. 21.

ORIGINAL ARTICLES.

NEPHROLITHOTOMY.[1]

BY L. McLANE TIFFANY, M.D.,

PROFESSOR OF SURGERY IN THE UNIVERSITY OF MARYLAND.

I was asked, in February of this year, by Dr. Frank Donaldson, Jr., of Baltimore, to see with him a patient in the pelvis of whose right kidney Dr. Donaldson had diagnosticated trouble, for the relief of which surgical treatment was judged necessary. The patient was a male, aged twenty-six years, married, the father of one child, pale, emaciated, and gave the following history: at the age of seventeen years he began to experience pain in the right loin, paroxysmal in character and not very intense. The attacks of pain gradually increased in severity and at shorter intervals; he was, however, able to finish his apprenticeship, that of tinner. About six years ago he noticed that his urine was lightish in color and deposited a white sediment, as he expressed it. At that time exercise did not bring on an attack of suffering, neither did he observe blood in his urine. On July 4, 1884, he was seized with an attack of pain extremely severe on the right side just below the ribs, pain has continued almost constantly ever since, remissions being rare; during the night pain has been more severe than during the day. Since last July, the patient under consideration has taken much morphine—without it, he says he could not live.

Physical examination showed tenderness on percussion and on pressure acute pain, over the front of the belly about the region of the kidney; no tumor was detected, although searched for.

The outer portion of the right external oblique was rigid, and the lumbar muscles were more rigid than natural; percussion gave a sound somewhat more dull than over the corresponding region of the left side. The patient moves slowly, holding the trunk stiffly, for quick motion and any exertion cause much pain.

Urine was passed in normal amount, and contained much pus; casts were not observed, although searched for; there was no history of blood or gravel having been passed at any time. Micturition not unduly frequent or painful and in full stream.

These symptoms justified exploration of the kidney, so on February 21st, H. J., being anæsthetized with ether, I exposed the kidney by an incision carried half an inch below and parallel to the last rib. The quadratus lumborum muscle was divided, as also the outer edge of the erector spinæ. The perirenal and subperitoneal fat being divided, the kidney was watched and seen to rise and fall regularly with respiration, thus excluding perirenal inflammation to any marked degree. To the touch the gland seemed more hard than normal and a needle passed into the kidney did not touch stone; on passing the needle again in, it was directed more forwards than the first time; I at once struck a stone. The kidney was then freely opened lengthwise with the hot blade of Paquelin's cautery and the finger passed in to explore. The kidney pelvis was filled by stone so closely that without undue force I was not able to pass any forceps so as to grasp the calculus. In attempting so to do, I broke off a piece of stone and saw that I had to do with a phosphatic concretion.

I then directed an assistant to press with the flat of his hand upon the patient's belly so as to force the kidney towards my incision, while with a Volkmann's sharp spoon and forceps I broke up and removed the stone. The spoon acted charmingly, cutting a hole in the centre of the mass with rapidity. The débris was washed away by means of a syringe. The fragments which were collected weighed 556 grains, phosphate of lime. Hemorrhage was insignificant and ceased under hot water irrigation. A large drainage-tube was passed into the pelvis of the kidney and an oakum and iodoform dressing applied. At the (12 M.) conclusion of the operation the pulse was 156, respiration 18, temperature 101.4°; at 11 P.M., the pulse 132, temperature 101°, respiration 18. Forty minutes after the operation the patient passed water and complained of its burning him.

Convalescence calls for no special comment. All went well; the patient sat up out of bed and had a full diet in a week and left the hospital three weeks and four days after operation; the wound being reduced to a healthy granulating surface, level with the skin, through which no urine came; it has since healed perfectly, and gives no discomfort.

Two noticeable facts became apparent as healing went on: 1st. That during the early days after operation when the urine from the wounded kidney came through the back, the urine from the bladder was clear and almost quite free from pus, as however the incision closed, pus again appeared in the urine, indicating that the kidney not opened was probably healthy.

In the second place, it was found possible to inject water into the drainage-tube and so through the ureter into the bladder. Pus was still to be found in the patient's urine when he left the hospital, but of course in greatly diminished quantity.

While the term nephrolithotomy is not a new one, yet it has been revived, defined, put upon a good surgical basis, and appended to a successful case by Henry Morris (vol. xiv. *Clinical Soc. Trans.*), to whom is due much credit. It is used to indicate the removal of a stone or stones from an otherwise healthy kidney, as distinguished from such operation as may be necessary to remove a stone or stones from a kidney dilated by pus or urine, or where the stone

[1] Read before the American Surgical Association, April 22, 1885.

may have escaped by ulceration into the perinephritic tissues, or where a sinus opening externally conducts the operator to the stone, or indeed where the kidney may present evidence of much disease.

A lumbar swelling which fluctuates, is opened, discharges pus and permits the operator's finger passed through the incision to touch a stone free in the abscess cavity, is a very different procedure from that for removal of a small stone from the kidney cortex which has not set up suppuration, yet I venture to hope that at no distant period the one will be operated for as certainly as the other. The matter is an affair of diagnosis, to obtain which it is most fitting to question the experience of others.

Four-fifths probably of individuals hitherto subjected to nephrolithotomy have been young, between 19 and 30 years inclusive, but it is fair to suppose that this experience will be changed somewhat as the necessity for the operation becomes more widely recognized, since all the patients suffered for years before the stone was removed; a calculus is removed from the urinary bladder when discovered, and I would apply to the kidney pelvis a similar treatment. The male sex largely predominates, in this respect differing not at all from that which one would expect, since calculus of the bladder in the male is so much more often met with than in the female.

I find no occupation apparently particularly liable; statistics, however, are not full enough to warrant any conclusion. From a limited number of observations it would appear as though the left kidney was the more often affected, although the excess is small. The theory of hereditary predisposition is not supported. The symptom which is most prominent throughout, and the one for which the physician is consulted is pain. Pain was complained of for a long time, thus a male aged 50 suffered during 24 years; a male aged 24 suffered since schoolboy days; a female aged 19 since 8 years of age; a male of 19 since 7 years of age; a man of 19 for 8 or 10 years; a female of 23 during the past seven years, and this is the history with all. With all, the pain for a long time, if not always, is paroxysmal, recurring at first rarely; subsequently, however, the intervals become shorter and shorter, until finally constant suffering may be experienced. The acuteness of the attack is apt to be in direct ratio with its frequent recurrence. This is not an unvarying rule and the intermissions are occasionally long, in one case four and in another ten years of rest being enjoyed. Sooner or later there may occur, however, a marked exacerbation in all symptoms, which I am inclined to attribute to a dislodgement of the stone from its fixed position, thus permitting movement in the kidney pelvis, with injury to the mucous membrane.

Pain is described as follows by different reporters:

At varying intervals from a day to a week; during the past four years pain has nearly left him, now he has a dull pain on exertion.

Pain in loin shooting to testicle, which is retracted; pain and tenderness on deep pressure in loin.

Shooting pain in right lumbar region, in groin and loin. No tenderness or resistance; this appeared by the time of operation.

Neuralgia of testicle daily and for several hours; during an attack the patient writhed with agony, the testicle was drawn into the canal and could not be touched. An attack was usually preceded by pain deep in the belly, also by lumbar pain.

Hidden pain in loin, side of belly, testicle, inside of thigh. During four years, attacks occurred every six months, then constant pain for two years, and finally during ten months the patient has remained in bed.

Great pain in the loin down the ureter to testis and thigh, followed by hæmaturia. Pain has been observed to shoot down the thigh as far as the knee. Atrophy of the testicle succeeded the pain in one instance. Exertion, in all cases that I have noted, has given rise to pain, and especially such motion as throws the muscles of the loin into action. Sudden active movement induces much suffering in an advanced stage of the malady. The lumbar muscles are occasionally quite strongly contracted and rigid over the affected kidney, and the outer portion of the external oblique may be likewise contracted; under anæsthesia this symptom will disappear. A lumbar swelling and dulness have been in one instance observed to disappear under anæsthesia, doubtless muscular rigidity had much to do with their presence. Frequency of micturition has been noticed several times, particularly after a paroxysm. Symptoms referable to the urine are not very clearly defined, since during the years of suffering the urine will probably have indulged itself with various changes at different times; the urine is thus described in various cases:

Sp. gr. 1010, neutral, contains blood and triple phosphates; later, urine from the same patient contains albumen and pus, with sp. gr. 1024.

Sp. gr. 1020, acid, trace of pus.

Sp. gr. 1020, in copious quantity during the twenty-four hours, never any pus or blood.

Sp. gr. 1020, alkaline, pus, no blood or casts; a few days later blood appeared and the urine became acid.

Probably a noticeable fact from a diagnostic standpoint is rapid change of urine from alkaline to acid, or the reverse, without apparent cause, dietary or what not. The constituents of the urine may be thought of from a similar standpoint. Blood will probably be found in the urine according as much or little exercise has been indulged in, in one instance it is thus described: The urine is dark with blood after exercise, rest cleared it up; in another instance: blood in quantity has been passed lately after exercise, enough to obstruct the urethra by coagula; after a paroxysm, blood is apt to be present in the urine. Sand and gravel have both been exceptionally met with. Casts of the urinary tubules are observed very rarely, probably because they are hidden by other constituents of the urine. But the indications of stone already noted do not suffice for a diagnosis any more certainly than calculus of the bladder is accepted as present without being touched, so the kidney must be exposed and sounded. It goes without saying that the incision to expose the kidney is to be utilized for extraction if a calculus be found. The incision which is as convenient as any other, is one parallel to the last rib, and about half

an inch below it; or the usual colotomy incision will do, and the kidney sought for posterior to the colon. The quadratus lumborum is to be divided and erector spinæ if necessary, since an empty colon moves towards the spine, carrying the peritoneum, and both should be avoided. A thin fascia has been recognized in the perirenal fat, but this may be disregarded, for as soon as this fat is exposed the finger can feel the gland, and it may at once be cut down upon. The length of the various cuts will depend upon the exigencies in each case. The rise and fall of the kidney with the respiratory movements have been observed in more than one instance. Examination of the exposed kidney by touch, is to be made from in front, as strongly urged by Howse, the gland is thus pressed against the psoas muscle, which offers resistance, and enables the investigating finger to appreciate changes in density, etc. I think it inexpedient to explore widely in the perirenal tsssue, for the kidney will probably be opened, and a split kidney will cicatrize more comfortably with its connection to surrounding parts undisturbed, than not. Failing to recognize a stone by touch, a needle may be passed into the kidney and the pelvis explored. This is the usual method. I am rather of the opinion, however, that it is needless, and that the kidney which justifies exposure also justifies cutting open and exploration of its pelvis. Acupuncture holes are apt to bleed somewhat for a moment or two. The kidney is to be opened by a longitudinal cut, which bleeds very sharply, but yields to pressure promptly, and probably also to hot-water irrigation. If Paquelin's cautery is used, there is no bleeding. It is interesting to learn that in one case, that reported by Anderson, the stone had two projections like the fangs of a tooth, between which was engaged a piece of renal substance; in extracting, this piece was torn away bodily, yet no harm resulted and the wound healed promptly. It may be inferred from the foregoing that the kidney is to be treated as other glandular organs of the body, and will heal as promptly. The finger is the best instrument with which to explore the kidney pelvis, as well as the secreting substance from within.

The smallest stone that I have noted is that of Howse, oxalate of lime 26 grains; the largest is the one now reported and shown; the next largest is that of May, crystalline phosphate of lime with nuclei of oxalate, 473 grains. Calculi hitherto extracted are largely made up of lime oxalate and phosphate. The mortality following this operation is small, probably five per cent. or ten per cent. at most, even now in its very infancy, a mortality which may confidently be expected to decrease as we gain experience. It will probably take its place among the most successful of major operations.

Will the kidney, the subject of nephrolithotomy, return to a healthy condition? Time must reply to this query; at present no answer can be given; a sufficient period has not elapsed since Morris's first operation, 1880. On general principles we should expect a return to health after removal of a foreign body, but we know that the age of the patient has much to do with permanent and complete recovery after removal of stone from the bladder, so I am inclined to think that the same may hold good in regard to the kidney pelvis. May's patient, three months after operation, passed urine sp. gr. 1020, alkaline, containing mucus, pus, and triple phosphates. The possibility of a recurrent attack suggests itself, but we are without data on the subject.

I have mentioned that I was able to inject my patient's bladder with water through the ureter. This has been to me a fruitful theme.

Exploration and catheterization of the ureter from the bladder in the female has been attempted not over successfully, but it could be done from the kidney extremity in either sex. The injection of colored water through the ureter, a catheter having been passed into the bladder through the urethra, would demonstrate its patency in case of pressure by a tumor or calculus; or the latter might be touched by a slender flexible bougie, metal tipped, and extracted. There is still another way in which this suggestion might be utilized, when a nephrotomy has been done and the question of removing the diseased kidney arises, by washing out the ureter, and then plugging it, the urine from the other kiney could be collected and its healthiness investigated, for wherever a nephrectomy is under consideration the fitness of the remaining kidney for the extra work to be thrown upon it will come up for discussion. I am inclined to institute a comparison between the reservoirs at either end of the ureter, when, in addition to the normal fluid contents, a stone is present. In both, certain symptoms occur which we should recognize; in both, we should sound, find the stone, and extract, and I am strongly inclined to believe that in nephrolithotomy, as in lithotomy, the age of the patient, as already stated, has much to do with the outcome. How important then is it to diagnosticate and operate early.

There remain for consideration a certain set of cases, in number not a few, which cases have been diagnosticated as fit subjects for nephrolithotomy by not only competent, but by eminent surgeons, and yet no stone has been found after the kidney was exposed, and also, after the kidney was cut open and explored by the finger; for instance (*Lancet*, June 2, 1883, p. 948):

C. S., aged 29 years, married, female, dated her illness from an attack ten years ago, characterized by sudden and excruciating pain in right loin, accompanied by vomiting.

Shortly after this her urine smelt badly, and contained a yellow deposit. She came under the surgeon's care February, 1881; chief symptoms were lumbar pain, increased by exertion, fetid urine, and frequent micturition. Under ether, nothing was found wrong with the bladder, uterus, or rectum. There was no lumbar swelling. Urine acid, and contained pus. January, 1882, on examining the right loin something was felt to slip under the fingers, she at the same time complaining of a sharp, stabbing pain.

On admission she complained of severe pains in right loin, which extended from groin into the labium and down back of thigh; they were increased by exertion, and prevented her from walking any considerable distance. Unine alkaline faintly; sp. gr. 1014; gave reaction to guaiacum blood test. Microscope showed triple phosphates, mucus, pus, shrivelled blood corpuscles. She got thinner, and became slowly worse.

December 25, 1882, kidney exposed; it was observed to rise and fall in respiration. No resistance could be felt in it. It was punctured in three places with an acupressure needle, a gritty sensation attending the last puncture. The kidney was cut open and the pelvis explored with the finger, but nothing was found. Hemorrhage small, and ceased spontaneously very soon.

The wound was closed, and recovery followed. March 8, 1883, patient was going about her work without pain, but urine continues rather unpleasant. The operator (Lloyd) says: "Whatever her disease is, I feel sure it is situated somewhere between the bladder and the kidney substance, and is out of reach of surgical investigation."

I cannot avoid thinking that the territory between the kidney and bladder is not out of reach of surgical investigation, and that if the methods of exploration already noted in this paper had been employed, something might have been learned concerning the "dark continent." I do not accept the diagnosis of the reporter.

Here is another case (*Bull. de Thérap.*, 1881, 101, p. 343):

M. X., aged 55 years, suffered from several attacks of left nephritic colic, especially during the past three years, which were followed by the passage of uric acid sand, extremely fine; no piece of gravel had ever been passed. For more than six months continuous pain, with a sense of impending colic, rendered it impossible for him to continue his occupation. Finally the patient was obliged to remain in bed, or else to occupy an extension chair; walking induced much suffering. The left loin appeared more large and rounded than usual. Percussion here awakened suffering, as did also pressure. No febrile phenomena existed.

The kidney was exposed by incision; digital examination revealed nothing; acupuncture practised four or five times; a grating sensation, attributed to small sand; later a stone was believed to be struck. With Paquelin's cautery an incision, six or seven centimetres long, was made into the kidney, but no stone finally found. The wound healed, and complete cure resulted.

The incision through the fibrous capsule, dislodgement of small sand from kidney substance, and revulsive action of cautery are believed to have contributed to a cure; but the operator gives the most credit to free division of the kidney capsule, and with this opinion I concur. The irritation set up by the presence of sand in the kidney substance, or by adjacent inflammation in the pelvis of the kidney, is sufficient to determine a congestion and swelling of the gland, which will, of course, be resisted by the fibrous capsule, hence pain results, and if the pelvis is inflamed, pus, etc., will be in the urine. A similar train of symptoms is seen when the testicle becomes painful and tense from inflammation in an adjacent epididymis. In both cases similar treatment brings relief, namely, division of the fibrous capsule.

With our present knowledge, then, it is apparent that the symptoms of kidney stone may be so closely imitated as to deceive any one, but while the diagnosis is in doubt the treatment is not: a free incision is demanded.

To the comparison already made between bladder and kidney pelvis, I would add another, that both may require free incision, drainage, and rest, to bring about a cure of chronic inflammation, thus still further applying a common rule to different parts of the urinary apparatus, and so simplifying surgery.

THE INFLUENCE OF THE BROMIDES IN THE PREVENTION OF IODISM. REPORT OF A CASE.

BY HENRY SELDEN NORRIS, M.D.,
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DURING the past four months there has been under my care, a case of bone syphilis and periostitis, in a man thirty-six years of age, in whom the obstacles to treatment were, to me, rather unusual. In the beginning he informed me that the iodides acted very badly with him, producing such severe coryza that it was impossible for him to take them except in insignificant doses. Still, he expressed his willingness to try them in whatever form or amount I might think necessary, and to persevere in their use if such a course should seem desirable.

Disregarding, to a certain extent, this statement concerning his idiosyncrasy, I began by ordering five grains of the iodide of potassium three times a day, in water, intending to increase the dose gradually. The first dose produced a metallic taste in the mouth, a feeling of tension about the forehead, and slight sneezing; the second increased all these symptoms and caused, in addition, a profuse watery discharge from the nose, lachrymation, swelling of the nose and eyes, and great general discomfort. Notwithstanding this condition, the third dose was taken, which still further aggravated the coryza and produced headache, restlessness, and real suffering, which lasted throughout the night. The next day his eyes and nose were red and swollen to disfigurement, both discharging water freely, and he felt ill and scarcely able to go to his business.

I waited until all the catarrhal symptoms had subsided and then tried the iodides of sodium, ammonium, and lithium, in turn, with the same results. The syrup of the iodide of iron, in teaspoonful doses, resulted similarly. Gardner's syrup of hydriodic acid in drachm doses, was well borne, and I thought I had at last found a form in which iodine could be taken, but as soon as the dose was increased to two drachms coryza appeared, and it was abandoned. I then went back to the iodide of potassium, which I gave in one grain doses to begin with. This produced a salty taste in the mouth, and was increased to two grains without any further manifestations, but could not be increased to three grains without unpleasantly severe symptoms.

These experiments occupied some two months. I gave the salt in water, in syrups, and dry in capsules. I used the latter thinking that perhaps the contact of the solution with the mucous membrane of the pharynx had something to do with the extreme susceptibility, and noticed that a larger dose could be taken in this way than in any other, but the difference was not important.

No improvement taking place after these prolonged and varied efforts, I thought that my perseverance with the iodides had possibly increased my patient's susceptibility to their unpleasant effects, and I de-

cided to abandon them entirely for a time, hoping that by so doing I could return to them with a better prospect of success. For the following three or four weeks I gave McDade's "succus alterans," of which he took about twenty-four fluidounces. I would say here, that mercury, either as the protiodide or bichloride, was given from the beginning and maintained throughout. In the meanwhile, the disease was slowly but certainly advancing, and the necessity of iodine becoming daily more apparent, I began again with small doses of the potash salt, but did not find my patient any more tolerant than before. At this juncture it occurred to me that by virtue of their action on the vasomotor system, the bromides might antagonize this action on the upper air-passages. I decided at once to try the experiment, and having in mind the combination of bromine with quinia for the prevention of cinchonism, I combined the iodide and bromide of potassium in the proportion of one grain of the former to two of the latter. I began with five grains of the iodide thus guarded, in water, three times a day, and to my delight no coryza followed its use. After a few days I slowly increased the dose to six, seven, and at last ten grains, always preserving the same relation between the two salts. My patient was then taking thirty grains of the iodide and sixty grains of the bromide a day, and I soon began to see an improvement. Wishing to satisfy myself as to just what part the bromide was playing in the absence of coryza, I one morning directed that ten grains of the iodide should be taken alone. This one dose was followed by such severe coryza that all treatment was suspended for thirty-six hours. I then returned to the mixture as before, beginning again with a five grain dose, increasing slowly and carrying it up to fifteen grains. On forty-five grains a day improvement was pronounced and rapid. Sometimes he would take three doses of fifteen grains each, sometimes the whole quantity in two doses, just as it was convenient, but with the same freedom from coryza.

After the disease was thoroughly arrested and improvement had well begun, I slowly diminished the quantity of bromide, maintaining the iodide at fifteen grains, until in two or three weeks he was taking it alone, and continued to do so until he was entirely well.

My object in reporting this case is not to report a case of syphilitic necrosis and periostitis, so I have said very little about that part of it, but to call attention to the undoubted service rendered by the bromide of potassium in establishing a tolerance of the iodide in a case which was prominently intolerant. Whether it will always thus protect I do not know, having never heard or read of its being used for this purpose before, but where there is this susceptibility to the disagreeable effects of iodine, I would look to the bromides with a good deal of confidence.

MURIATE OF COCAINE IN EXTERNAL HEMORRHOIDS.

By H. A. SMITH, M.D.,
of Philadelphia.

The uses to which the muriate of cocaine has been put led me to try it as a local anæsthetic in the excision of external hemorrhoids.

The patient was a man about fifty years of age, of nervous temperament, with a timidity of pain amounting to fear, dyspeptic, and general health considerably below par. After having exhausted the materia medica of "remedies" and obtaining no relief, he finally consented to an operation. On examination I found the skin and mucous membrane around the anus a mass of corrugations with slight patches of ulceration between the folds; five piles protruded from the anal fissure, four of moderate size and one with a base about one and a half inches in its long diameter.

I considered this an excellent case for operation. After the usual preliminary preparation, I began by injecting about one-third of a grain of muriate of cocaine into each of three of the piles, and in about two minutes, with scissors, I excised them close to the base, the patient experiencing hardly more than slight discomfort. His timidity preventing any further operation that day, a week later I excised the remaining small pile, in the same manner, and then began on the large tumor by inserting the needle of a hypodermic syringe, containing about two-thirds of a grain of the salt into the base of the tumor, injecting a few drops just under the skin, then traversing the pile in its entire length, depositing the solution in the track of the needle to a point just within the skin on the opposite side. I withdrew the needle, inserted a tenaculum, put the pile upon the stretch, and excised it without inflicting the slightest sensation of discomfort except that caused by the entrance of the needle into the skin, much to the surprise and delight of the patient.

This operation suggests to me the probability of the usefulness of this drug in the painful clamp and cautery operation for the removal of internal piles.

After the operation there was an unusual amount of mental excitation, slightly flushed face and contracted pupils. This may have been due to the reaction from his profound depression previous to the operation, as I have not heard of any such effects having been attributed to the drug in the amount used.

MEDICAL PROGRESS.

Pathogenesis of Small Cysts of the Epididymis. —Dr. Ch. Monod, in a paper read at the recent French Congress of Surgery, considers that the origin of small cysts in the epididymis is in relation:

1. With the extent of the sclerosis of which the testicle is the location in men of ages ranging from fifty to sixty, and beyond.

2. This sclerosis, which is principally peritubular, in some regions results in complete obliteration of the tubules of the epididymis, as a result of which there is varicose dilatation behind the constricted portion of the tubule.

3. The formation of the cystic cavity results from the development of these ampullar dilatations.

4. Cystic dilatations are either multiple or disseminated throughout the whole thickness of the head of the epididymis, or less numerous, forming isolated tumors and easily detached from the subjacent tissue of the epididymis.

5. The process by which they are formed is analogous to that by which cysts are developed in the kidney during the course of interstitial nephritis, or in the parotid gland subsequent to the ligation of Steno's duct.

Vice of Conformation in the Penis.—M. Grias reported, at a recent meeting of the Anatomical Society of Nantes, a singular anomaly in the conformation of the penis, in which the organ appeared to have undergone a complete rotation, whereby the inferior surface had become superior, and vice versa. The following is a full description of the anatomical disposition of the component parts of the organ.

The corpora cavernosa were normal in respect to volume and length. The canal of the urethra was situated upon the superior groove formed by their apposition. Their inferior face was occupied along their whole length by a vein one-half inch in diameter. The glans was of normal form. The meatus urinarius occupied its summit, and a sound could easily be introduced into the bladder. The frænum was situated upon the superior surface of the glans; prepuce normal. On cutting the urethra longitudinally along its superior wall, it was found:

1. That neither the corpora cavernosa nor the corona of the glans were reached by the incision.

2. That the frænum was divided, and that the glans, whose direction in the normal penis in its flaccid state is from above downward and from behind forward, was here directed from above downward and from before backward.

3. That the bulb of the urethra is found not below the canal, but on the upper portion of that wall, and was embraced in the incision, which being extended to the neck of the bladder, the veru montanum was seen upon the opposite surface of the urethra. The vesiculæ seminales and the prostate gland were in their normal position.

Similar cases were reported in 1859 by MM. Verneuil and Guerlain.—*Gazette Medical de Nantes*, April 9, 1885.

Researches upon the Respective Rôles of Ptomaines and Microbes in the Pathogenesis of Septicæmia.—Drs. Jeannel and Laulanié, at the late meeting of the French Surgical Congress, expressed their views as to the etiological relation of microbes and the ptomaines to septicæmia as follows:

1. The respective rôles of microbes and ptomaines may perhaps be determined by a comparative study of the absorption of saline solutions and putrid solutions from the surface of granulating wounds.

2. Any substance capable of being absorbed is immediately taken up from the surface of a granulating wound by the process of endosmosis. Therefore, the ptomaines which are in a state of solution are absorbed as soon as they are produced upon the surface of such a wound.

3. The granulating membrane is a filter which permits the passage only of such substances as are in solution, and not of those held in suspension, such as microbes and other albuminoid bodies.

4. Septicæmic fever is never observed in those having granulating wounds the surfaces of which are covered with putrid pus, for the reason above stated.

5. When the granulating surface of a wound secreting pus is broken or unhealthy, fever becomes a prominent symptom: because the filter (granulating surface) being broken the passage of the microbes contained in the pus is permitted.

6. If the intact granular membrane absorbs the ptomaines by endosmosis when they exist upon the surface of the wound and nevertheless the injury is not complicated with fever, and if, on the other hand, septicæmic fever in one or the other of its recognized forms is only manifested when by breaking of the granulating membrane the microbes are enabled to enter the economy, it is evident that the ptomaines are only a secondary element, while the microbes exercise the principal influence in the production of septicæmia.

The Transmissibility of Tuberculosis by Means of the Sputa of Phthisical Patients.—Prof. S. Sirena and Dr. B. Pernice have lately made a series of investigations upon the transmissibility of tuberculosis by means of the sputa of phthisical patients. Their experiments were performed with great care as to details, and lead to the following conclusions:

1. The liquid obtained from the evaporation of tubercular expectoration is constantly free from the bacilli of Koch, and, when injected into the cornea, subcutaneous cellular tissue, or into the peritoneal cavity, as a general result, produced neither local nor general tuberculosis.

2. That phthisis-producing bacilli are not found in the surrounding atmosphere, as a result of evaporation of tubercular sputa, though such organisms may be very abundant therein.

3. Respiration for several hours, or for a protracted period of several days, in a close atmosphere in which are contained the exhalations from phthisical sputa, does not produce tuberculosis in animals.

4. Animals confined in close quarters and compelled to breathe an atmosphere laden with the dust of dry tubercular sputa, do not contract tuberculosis.

5. The subcutaneous injection of tubercular matter produces for the most part a local specific manifestation, as is shown by the presence of tubercular bacilli in the pus of the lesion, and after a variable time produces tuberculosis of the abdominal or thoracic organs.

6. The injection of tubercular sputa into the peritoneum, produces first a local, and secondarily general tuberculosis in animals.

7. Tracheal injection of a solution of tubercular sputum, even in animals affected with broncho-pulmonitis, is not the cause of a specific infection, but for the most part of septic croupous pneumonitis characterized by the presence of micrococci on the exudation.—*Gazzetta degli Ospitali*, March 29, 1885.

Hypodermatic Injection of Sodium Iodide.—M. Arcari, in the *Gazzetta med. Ital.*, Lombardia, 1885, No. 11, recommends the hypodermatic injection of sodium iodide in syphilis, when irritability of the stomach renders its administration by the mouth impossible. According to M. Arcari, the same result obtained by ninety grains of the drug administered by the stomach, may be procured by thirty grains by the mouth, and two hypodermatic injections of two and a half grains each, daily.—*L'Abeille Médicale*, April 30, 1885.

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SATURDAY, MAY 23, 1885.

THE PLYMOUTH EPIDEMIC.

THE weight of evidence thus far collected tends to the conclusion that the disease which has prevailed in the town of Plymouth since early spring, is true typhoid fever caused by the specific contamination of a mountain stream, partly supplying the town with drinking water, by the excretions from a case of fever which were deposited on the surface of the ground close to the stream, and washed into the current by the melting of snow and by rains. It had not occurred to the physician and attendants of this case to destroy the specific character of the dejections; otherwise the record of this dire calamity probably would not have passed into history.

The sequel affords a most impressive lesson, by no means new, as similar and equally conclusive cases have every now and then been brought to public notice. Among these may be mentioned, for the sake of comparison, the outbreak of typhoid fever in the village of Nunney, recorded by Ballard. Here the inhabitants had been in the habit of using the water of a stream more or less polluted for years without causing fever; but when a case had come into the village, and the discharges from this person were washed into the stream, a virulent outbreak of fever occurred. Between June and October, 1872, no less than seventy-six cases occurred in a population of 832 persons. All those attacked drank the stream water habitually, or occasionally. All who used filtered rain water or well water escaped, except one family who used the water of a well only four or five yards from the brook.

The remarkable outbreak of fever which occurred in North Boston, N. Y., in 1843, described by Dr. Flint, is equally instructive. No cases of typhoid fever had ever been reported in the village until the year named, when a traveller, who had been several days sick, arrived at the inn. The evacuations from the fever-stricken patient were thrown into a cesspit in close proximity to a well which supplied most of the village with water. Over half the community were attacked with fever, and all these persons had used water from the tavern well, daily. These cases show conclusively that the water produced the disease, and though polluted even with excrement, no enteric fever appeared until the specific agent of the disease was present.

The practical lessons of prevention relate to the treatment of the passages of patients sick with infectious disease, and the preservation of the water supply from impurities. It is unquestionably the bounden duty of those having charge of cases suffering from diseases transmitted by means of the alvine discharges, such as typhoid fever, cholera, dysentery, scarlet fever, etc., to see that the dejections are wholly disinfected at their very issue from the body. For this purpose chloride of lime, dissolved in soft water, in the proportion of four ounces to the gallon, or corrosive sublimate dissolved in soft water, in the proportion of two drachms to the gallon, are most efficient agents.

The protection of the water supply from impurities involves an exact knowledge and vigilant supervision of the source, collection, storage, and distribution of the supply. Sewage and all foul matter, especially of the excremental sort, should never be permitted to flow into a stream used for drinking water. In the town of Plymouth the small volume of water and the nearness of the points of infection and of distribution, were conditions favorable to a violent eruption of disease. The water supply of large cities is often similarly polluted, but the great bulk of water, by its dilution and other natural means of purification, has doubtless prevented an occurrence similar to that which has overtaken unhappy Plymouth. Nevertheless, the apparent self-purification of running streams which have been certainly polluted in some part of their course, cannot be depended on as a guarantee that the water is fit for domestic use. Disease germs are very difficult to deprive of their vitality; they may be even frozen and yet preserve their activity. Admitting the presence of disease germs in water, it may be diluted until the chance of taking even a single germ into the system is so small that it may be disregarded; and yet, if the prevailing theory be true, a single germ, if taken, may produce disastrous results.

The whole subject reverts to the one essential condition of cleanliness as the most certain preventive of disease. The complete and inoffensive removal of all refuse matters as fast as produced, and the

rendering innocuous of such matters as are unavoidably detained, are cardinal rules of sanitation. Had the authorities of Plymouth applied these rules, the people of that quiet town would have been spared the harrowing incidents of the past few weeks.

This local outbreak of typhoid fever above alluded to furnishes a fresh illustration of the serious consequences which sooner or later follow after a reckless disregard of the laws of health. What has happened at Plymouth has happened before and will happen again. People become accustomed to these occurrences, and pay little heed to the lessons they teach until the pestilence is at their own doors. Then wisdom is purchased at a terrible cost.

It needs no argument to show that the scourge from which the people of Plymouth are suffering might have been prevented; or that, with proper sanitary administration, either local or general, its progress might have been stayed long before this. For the want of such administration, weeks have elapsed before the true cause of the disease has been satisfactorily determined, and then only by voluntary investigations, prompted by a desire to extend aid to fellow-beings in distress.

No stronger argument need be required for the prompt organization of a State Board of Health than that furnished by the circumstances connected with this outbreak of disease. Had such an organization been in existence, it would have demonstrated its usefulness, by promptly determining the cause of the sickness, and by instituting measures for its speedy removal. It is time that our legislators realized the serious responsibility they incur by ignoring the true wants of the people. The bill for the creation of a State Board of Health should be passed without any further delay, and the people relieved from the reproach which has been cast upon the good name of the Commonwealth by continued inaction.

NITRO-GLYCERINE IN CONTRACTED KIDNEY.

It is well known that hypertrophy of the left ventricle is sooner or later an almost constant symptom of contracted kidney, and in the later stages, at least, of the disease, it becomes, through its powerful impulse, one of the most annoying of symptoms. It is generally conceded that this cardiac complication is the result of the renal affection, although all are not agreed as to the precise method by which it is brought about. It is, also, thought by some that the hypertrophy is compensating in character; that the increased amount of blood forced through the kidney gives rise to increased secretion of urine; and that in this way is made up the required excretion, otherwise impossible by reason of the diminished secreting surface in the contracted organ.

Recently, however, Rossbach, of Jena, in the *Berliner klin. Wochenschr.*, for January 19, has ventured to oppose some objections to the view that the polyuria of interstitial nephritis is due to increased blood pressure and an accelerated circulation through the healthy parts of the kidneys. He bases these objections upon the fact that by means of nitro-glycerine we can reduce the blood pressure to the normal degree, or even below it, notwithstanding which the secretion of urine not only continues increased, but a very annoying set of symptoms, including the uncomfortable palpitation and eye symptoms, and even uræmia, are decidedly relieved. He shows further, by the reports of three cases, that the effect of nitro-glycerine is not only to increase the amount of the twenty-four hours' urine, but also to diminish the percentage and amount of albumen contained therein.

These facts certainly go to show that the polyuria of contracted kidney must be due to some other cause than the cardiac hypertrophy and increased blood pressure. Possibly, as suggested by Rossbach, they may result from an increased permeability of the still sound capillary walls to the blood fluid. That such permeability exists in chronic interstitial nephritis, not only for crystalloid and colloid substances, but also to solid particles, has been shown by Thoma in *Virchow's Archiv*, Bd. 7, 1877.

Be this explained as it may, we look upon the therapeutic value of nitro-glycerine with increased favor under the circumstances. Rossbach recommends that it be prepared for administration in the following way: A given quantity is weighed, dissolved in ether, and this solution well mixed with two parts of chocolate powder, and one of gum-arabic, so that 3086 grains of the mixture will contain 1.5 grain of nitro-glycerine. After the ether has completely evaporated, the resulting powder is mixed with sufficient water to produce a thick paste, which, after hardening completely in suitable forms, is divided into parts containing from 0.0077 to 0.015 grain of the nitro-glycerine, of which the dose is one, ten to fifteen times a day, in hourly doses until the effect is obtained.

Comparative observations by Rossbach upon the use of nitrite of amyl, nitrite of sodium, and nitro-glycerine, all of which have a depressing effect upon blood pressure, have shown that the last is altogether to be preferred. Nitrite of amyl is objectionable, on account of its powerful and uncontrollable action and the short duration of its effect, and the vertigo, headache, tendency to nausea, perspiration, and sense of weakness it induces. In like manner, the nitrite of sodium and potassium produce general discomfort, headache, and nausea. On the other hand, the headache produced by nitro-glycerine rapidly disappears, and after a few days the patient

not only becomes accustomed to it, but is so much relieved that he loses consciousness of the fact that his disease is still present and even progressing, for Rossbach has no facts to show that it is in any way able to arrest the disease, although further observations by careful observers are required before the possibility of such effect can be denied.

A NEW PROCEEDING IN PERINEORRHAPHY.

The January number of the *Revue Medico-Chirurgicale des Maladies des Femmes*, states that Koeberle has recently made known a new method of restoring the perineum completely torn in labor. As the obstacle to reunion proceeds from the distention of the intestine by fecal matter resulting from contraction of the anus, Koeberle obviates the difficulty thus: He freely divides the anus posteriorly, the incision extending beyond the circular fibres, and involving the connective tissue situated behind the rectum. There is thus made a large funnel-shaped opening through which fecal matter can pass freely until cicatrization of the recto-vaginal wall is complete.

By referring to the *American Journal of the Medical Sciences*, for November, 1837, it will be seen that the late Dr. William E. Horner then first proposed division of the anal sphincter on each side, and that, in 1848, he put this proposition in practice in a case of complete laceration of the perineum upon which he operated. This operation is reported in the same journal for October, 1850. It seems to us that Horner's method would attain the object sought by Koeberle's quite as well as that of the latter. At least we see no "new method" in Koeberle's practice, as essentially the same thing was done so many years ago by Horner.

Furthermore, the late Baker Brown, who, notwithstanding his clitoridian craze, which led to his ignominious expulsion from the London Obstetrical Society a few years before his death, will long be remembered as one of the most brilliant operators in the surgical diseases of women, was accustomed to divide the anal sphincter posteriorly subcutaneously. More recently Hegar has strongly advocated two lateral incisions upon the posterior border of the anus.

All these methods, though used in the secondary operation for ruptured perineum, or perineoplasty, as it ought to be called in distinction from perineorrhaphy, which strictly signifies only the use of stitches, had the same object as that now credited to Koeberle.

INOCULATION AGAINST CHOLERA.

From Spain we have accounts of experiments by Dr. Ferrán upon the vaccination of human beings against cholera with a mitigated virus. Without full details, it is difficult to judge of their value. He appears to have followed a further stage of development of the bacillus—a spirillum form which is also referred to by Watson Cheyne in his recent report. In what way the mitigation of the virus is produced is not clearly stated, though time and the action of oxygen are mentioned.

About twenty minims of a culture are injected subcutaneously, and within a few hours the person has a rigor or fever, with constitutional symptoms, which persist for twenty-four hours, and then begin to subside. Subsequent larger injections have no effect.

A Committee of the Royal Academy of Medicine of Barcelona have reported favorably on the experiments; but, whether it will prove a complete safeguard, cannot, in the words of the Committee, be definitely affirmed, without the proof afforded by an epidemic. The British Government has sent a Commission to Spain to examine the results, and its report will be awaited with interest.

GENERAL GRANT.

During the last few weeks General Grant has enjoyed a gratifying relief from most of the distressing symptoms which were so prominent in March and the early part of April. But, unfortunately, it cannot be said that the local affection has shown a corresponding improvement. On the contrary, the area involved by the infiltration and ulceration has increased in size. Part of the uvula is now destroyed, and the remaining portion is greatly thickened. The difficulty in opening the mouth, which has always been a serious obstacle to a thorough examination of the pharynx, is also greater, and there are indications that the overgrowth of tissue in the mouth is enough to create an increasing mechanical obstruction there. The lump in the neck is larger, either by its own growth or by the implication of adjoining glands, and the periglandular swelling is also larger.

The special treatment which has been employed for the last month, and which was undertaken solely on the general principle that it should always be tried in such cases as an aid to diagnosis, was pushed to the point of tolerance, and has now been given up. It has served its purpose in eliminating a possible doubt, and, that end having been attained, and its powerlessness to arrest the progress of the disease having been demonstrated, there no longer exists any reason to continue its use.

Meanwhile, the General has been able to resume work upon his memoirs and practically to complete them. He is comparatively free from pain, sleeps fairly well, and is able to walk abroad almost daily.

SOCIETY PROCEEDINGS.

THE AMERICAN MEDICAL ASSOCIATION.

Thirty-sixth Annual Meeting, held at New Orleans, April 28, 29, 30, and May 1, 1885.

(Specially reported for THE MEDICAL NEWS.)

SECTION ON STATE MEDICINE.

TUESDAY, APRIL 28TH.—FIRST DAY.

THE session was called to order at 3.30 P.M. by DR. E. W. SCHAUFFER, of Kansas City, Mo., Chairman.

In the absence of Dr. J. N. McCormack, of Bowling Green, Ky., Secretary, Dr. F. W. Parham, of New Orleans, was requested to act.

DR. JOHN AVERY, of Greenville, Michigan, read a paper on

STATE AND LOCAL BOARDS OF HEALTH.

The protection of the health and lives of its citizens is the highest duty of the State. The poor man's health is his capital, and the wages of each day's labor is the interest that capital pays to its owner. It is as much the duty of the State to protect that capital and make its owner secure in its possession and enjoyment, as it is for it to protect a railroad corporation in its franchise. All just governments have enacted laws by which they hold a man responsible for an injury done to another man through carelessness or malice, and which disables him from labor. And, also, laws to prevent the unnecessary spread of diseases which endanger the health and the lives of the citizens of the State. The latter are known as the public health laws of the State.

In the twelve years since its organization, the Michigan Board of Health, besides performing the duties required of it by the law, such as publishing and distributing its reports and a large number of monographs on subjects relating to public health; recording the deaths; investigating epidemic diseases, their origin, causation, and prevention; analyzing articles of food and water; visiting various places in the State where nuisances were complained of, and also the various correction and charity houses; examining plans of public buildings, and giving proper advice as to the best methods for their proper heating, lighting, and ventilation; it has also endeavored to awaken a more general interest among the people in sanitary matters.

This it has done by inaugurating and conducting a series of sanitary conventions in the principal cities, towns, and villages of the State. These conventions are aided by a committee of the citizens in the localities in which they are held. Persons interested in sanitary work are invited to read papers; and these, together with the synopsis of the discussions, are published in pamphlet form and distributed gratuitously. These conventions are always fairly attended, and the people are gradually being educated.

The State Board is in direct and frequent communication with every city, village, and township in the State, and acts as a sort of central signal station.

The Local Boards of Health are charged with the duty of administering and enforcing the laws relating to the public health, and they must immediately notify the State Board of the appearance of communicable disease in their localities.

The law confers upon Local Boards of Health authority to make and enforce any regulations necessary to protect the citizens of their respective municipalities against the spread of communicable diseases.

Under the beneficial action of these Local Boards of Health, the people are gradually being educated to the necessity of protecting themselves against communicable diseases, and to demand their complete isolation for the protection of the community. But the people are forgetful and neglectful; and need to be constantly reminded of the sources of danger which threaten health and life. And in no way can these reminders be so generally, authoritatively, and effectively given as through a well-organized and well-conducted State Board of Health.

THE CHAIR asked Dr. Avery if the State Board of Michigan made any provision regarding the practice of medicine in that State.

DR. AVERY replied that the law gave no such authority to the State Board. A bill had been recommended to the Legislature giving the right to the Board to regulate the practice of medicine in the State, but it had failed to pass. There was a law requiring every practitioner in the State to register; but that law gave the privilege to any one who had practised, or who swore he had practised for five years prior to it, to register on the same footing with an educated physician. It was expected that this law would be amended, so as to require all coming into the State after its passage to go before a Board of Examiners before being allowed to register; but the law failed to provide for the Board of Examiners.

DR. RAUCH, of Illinois, said he had found great opposition in his State to any law regulating the practice of medicine. To pass such a law, it is not sufficient to get it before the Legislature: the people must be in accord with the spirit of the law. The legislators would not pass any law that would make them unpopular with the people. The people must first be educated: they must be taught that the provisions of the law are for their benefit, and not for that of physicians.

WEDNESDAY, APRIL 29TH.—SECOND DAY.

Dr. Nelson read an abstract of the paper of DR. FRANK S. BILLINGS, of Boston, on

STATE MEDICINE.

Practical experience has taught monarchial governments that "public health is public wealth," and that there must be a Department of State Medicine. No government is true to its duties that does not support State Medicine. Owing to the geographical relations of the United States, public health is not here to the same extent as in Germany and other European States, a national necessity. But, to gain public wealth, public health is with us a national necessity. As no organ or region of our body may become diseased without causing the whole to suffer, so no part of a country may be ravaged by an epidemic without causing injury to the whole nation. It is the duty of every government to study the needs of the people,—to encourage and support research,—so that the resources of the country may

be fully developed, and that the people may be so protected that they may pursue their daily avocations in safety. They should not wait until public excitement makes them act.

All true governments must be parental, whatever their constitutional form may be. In our own country, the first difficulty is to know what we shall do with our medical school system. There are too many medical schools. We should, in the future, try to improve the quality and not the quantity of graduates. The profession is not united enough to admit of examining boards, elected by the profession and authorized by the government. There must be concerted action on the part of every true physician in the United States. The medical schools should be made to conform as far as possible to a uniform plan of instruction. A legal stop should be put to the endowing or incorporating of any more schools in States where one endowed school already exists. The aim should be to have in each State only one endowed school, which should be made scientific by State force. We should do our best to strengthen our best endowed school in our respective States. It is better policy to reform such a school than to weaken it by starting a weaker opposition school.

Where the schools are State schools the Faculty should be the examiners. Under existing circumstances it would better rest in the State Boards of Health, which should consist of specialists upon hygiene, a hygienic engineer, and a competent jurist. The board of health should then be the examining, diploma-granting, and licensing-to-practise body of the State, and the schools must govern themselves accordingly. No man should practise without the diploma or license of this board.

The medical service of the country should form one comprehensive public health organization. It should begin with a national board of health in Washington city, and a State board in each State. There should be a local board in each city and large town. Each county should have its chief health officer, and each district in each county an official representing preventive medicine. All should be appointed and paid by the State.

Dr. Hibberd, of Indiana, said that boards of health are of political creation, and are not competent to judge of the qualifications of medical men. A competent board, composed of men selected for their fitness, should constitute the board of examiners, who should examine into the qualifications of every individual desiring to practise medicine. He thought the investigation should determine competency in the elementary branches of medicine only.

Dr. Dabney, of Virginia, thought that boards of examiners should confine themselves to an investigation concerning the elementary branches of medicine only.

Dr. Hamilton, of the Marine-Hospital Service, said that the influence and aid of paternal governments in encouraging original investigation had been much exaggerated. Pasteur, Claude Bernard, Koch, and others, famous now as original investigators, were only taken up and assisted by governments after they had accomplished valuable original work. Our Government has itself done much to foster and encourage original research, as witness the National Museum, the Navy Museum, and the Army Medical Museum, in all of which the labors of numbers of men, enthusiastic in pursuit of original investigation, are represented.

Dr. J. B. Roberts, of Philadelphia, thought the duties of examining boards should properly include two considerations: 1st, inspection of the diploma; and 2d, the examination of the candidate before granting a license to practise. He offered the following resolutions:

Resolved, That the Section on State Medicine earnestly advocates the establishment in every State and Territory of boards of medical examiners and licensers, whose certificate shall be the only license permitting practice of medicine in said commonwealths, though an applicant for license shall previously be obliged to obtain a medical diploma from a recognized medical school.

Resolved, That the Section on State Medicine requests the American Medical Association to direct its permanent Secretary to transmit a copy of the annexed draft of a bill to the secretary of each and every State medical society, requesting that each State society discuss said bill, and report at the next meeting of this Association its views on the desirability of advocating such a bill.

Dr. N. S. Davis said that in 1844 he had endeavored to have established a preliminary qualification and to require that three full years should be devoted to the study of medicine. He thought the main thing to do was to get the diploma out of the way. This out of the way, the question would be one of competency, and students would not seek a medical college as a place where the right to practise could be acquired at an insignificant cost and in the shortest possible time, but because there they could make themselves *competent* to practise medicine. He thought there were certain fundamental principles belonging to our institutions, and we could not model our plans after those of foreign countries. The only interference of governments in educational matters should be the establishment of schools where children should be taught to read, write, and spell. Any taxation to accomplish more than this would be unjust. As to boards of health, the same principle should apply. A board might ordain that no man should maintain any nuisance to the detriment of his neighbor, but more than this it could not justly do with a due regard for private rights. When you say that the government should support schools for the pursuit of laboratory investigation, you have gone too far. This would be taxing one man for the benefit of another, and would be wrong. It was all well, and very laudable for schools like Harvard and rich individuals to do these things, for thereby no man would be taxed. He had come long ago to the conclusion that the first thing to do was to get rid of the diploma. Medical colleges would then attempt to get students not by underbidding other schools and reducing its requirements to the capacity of the greatest number, but would depend for its patronage upon its reputation as a place of instruction and its instructors would be selected by reason of their ascertained fitness as instructors.

As to boards of examiners, he heartily approved of them, but thought that their investigation into the qualifications of applicants should concern only the elementary branches of medicine as referred to by previous speakers. Moreover, he thought legislation for or against any system or school of medicine entirely wrong, and he had always been opposed to it. The aim of such a board should be simply to ascertain the

existence of a thorough education in the fundamental branches of medicine.

Dr. Armstrong, of the Marine-Hospital Service, moved as an amendment to Dr. Roberts's resolution that the clause requiring a diploma be stricken out.

The amendment was accepted, and the resolutions as amended were adopted.

The Secretary was instructed to present the resolutions in general session, and they were adopted by the Association on May 1st.

Section on Diseases of Children.

Tuesday, April 28th.—First Day.

The Section was called to order by Dr. J. N. Pope, of Texas, Chairman.

Dr. H. R. Kelly, of Galion, Ohio, read a paper on

the treatment of diphtheria in children.

He said there had occurred five or six epidemics in his community in the last thirty years, and cases every year for the last seven. He recognizes two principal types, the "anæmic," and the "inflammatory."

In the anæmic we find a weak thready pulse, low fever, a feeling of lassitude, little headache, little or no swelling of the glands, the throat looks anæmic, the membranes seem depressed, the edges lower than the surrounding tissues.

In favorable cases the disease lasts from two to three weeks. Croup is more frequent in this variety. When epidemic it causes more or less paralysis. When fatal, patients die generally from heart failure.

In the inflammatory variety the attack begins with a chill, high fever, anorexia, and full and strong pulse. The patient complains of severe headache and earache, the throat glands become enlarged and painful, the face and eyes are congested, and there is more or less delirium. The throat has almost an erysipelatous appearance. The membrane is bright yellow with edges elevated above the surrounding parts. The course is rapid. The nose is generally implicated, and alarming epistaxis may occur. Croup is not likely to appear. The sloughing in these cases is sometimes extensive.

Out of over one hundred cases, paralysis was present in twenty-two, outside of the muscles of deglutition, which were paralyzed in nearly every instance. Only two deaths occurred. The treatment in the two forms is different. In the anæmic, alcohol from the start, quinia if necessary, tincture of iron in full doses frequently repeated. Locally he used, either as a spray or gargle, the following, which has proved most satisfactory:

R.—Acid. carbolic. . . . . ℥ss.
Acid. salicylic. . . . āā℥ss.
Borax . . . . . ℥iss.
Glycerine and water . āā q.s. ad. ℥iv.—M.

Sig.—Every two hours alternating with a drachm of a solution of chlorate of potash.

In the inflammatory variety, arterial sedatives at first, then alcohol freely administered, quinia if necessary. Locally, a spray of:

R.—Tincture of iron . . . . ℥ij.
Chlorate of potash . . . . ℥j.
Glycerine . . . . . ℥ij.
Water . . . . . ℥j.—M.

Sig.—Use every hour. If the membrane becomes fetid, add a few drops of carbolic acid.

Especial attention should be paid to diet. Children should be made to drink as much milk as possible; three quarts a day are not too much.

The treatment of the paralysis is strychnia, quinine, iron, electricity, and good, rich food.

Dr. Ulrich, of Pennsylvania, said that his experience would lead him to condemn the treatment. In his own practice he had abandoned the use of local applications. He had seen death produced by an attempt to make an application to the throat. Had first met with the disease in 1860; after a number of disastrous cases, he had scored a number of successes, with the use of large quantities of chlorate of potash. He has not materially changed his treatment since, though he has had an extensive experience. He gives now as much chlorate of potash as the patient will bear, also tincture of iron and plenty of nourishment. He lets the paralysis alone, as it gets well of its own accord. When children in the same family have the slightest sore throat, he puts them immediately on the chlorate of potash treatment.

Dr. Williams, of Michigan, said that he had met with a large number of cases of diphtheria during the four years previous to 1882 as city physician in his city. The variety he has encountered most frequently begins with high temperatures. He gives large doses of quinine, tincture of iron (one drop for every year) every hour, and uses chlorate of potash as a gargle, with instruction to swallow a portion at each gargling. Gives as much nourishment as possible, and stimulants in large quantities. Applies locally tincture of iron after first wiping off the adhering mucus. He has seen the pain in swallowing much relieved by these applications. He does not consider the use of the spray practicable. In four years he lost only one of the city cases.

Dr. White, of Texas, stated that he had seen a child with well-marked exudation get well by giving it Epsom salts, and applying locally flowers of sulphur.

Dr. Ulrich, in addition to his former remarks, said that the worst cases commence with swelling of the muscles of the neck; generally no membrane can be seen from the mouth, but the nose is always involved; they do not commence with very high temperature.

Dr. Pope, of Texas, had seen patches in the throat, with fever, from errors in digestion. He would consider paralysis as proving the disease to have been diphtheria. He mentioned the fact as a matter of curiosity, that diphtheria did not appear in Mexico prior to the coming of the Emperor Maximilian.

Dr. Kelly, in closing the discussion, said that a great deal depends on how the local application is made. He did not believe in swabbing out the fauces with a sponge attached to a probang. He had found no trouble in using the spray. He had never had as great success in treatment as during the last year, and had never used the spray before. He had seen patients choke to death with the diphtheritic membrane. It has not been his experience that paralysis gets well without treatment.

Wednesday, April 29th.—Second Day.

Dr. R. J. Nunn, of Savannah, Ga., reported some

successful results of a new treatment of diphtheria.

He first referred to an article he had written on the efficiency of peroxide of hydrogen in removing diph-

theritic deposits, and then reported a case which died seventeen days after the successful removal of the membranes by that drug. From this he became convinced that the antiseptic treatment was necessary to combat successfully the destruction of the diphtheritic poison. From the table of Dr. S. Miguel, biniodide of mercury is found to be the most powerful germicide, being three times as powerful as the bichloride. A large quantity of the drug is not necessary. In the cultivation of the "aspergillus niger" 1 part in 1,600,000 of nitrate of silver added to the nutrient fluid stops the growth of the plant. Following these indications, a solution of 1 grain of biniodide of mercury to 4 ounces of a solution containing iodide of potassium is made, and 5 or 6 drops of this given every ten or fifteen minutes. If the membrane is thick, it is first acted upon by papayotin, to prepare it for the action of the peroxide of hydrogen, which is then faciltated very much. Papayotin is used in preference to pepsin, pancreatin, etc., because it acts equally well in acids as in alkaline solutions. To sum up the treatment, we have first, the frequent application, by spray or brush, of the peroxide of hydrogen. Then the parts are cleaned and papayotin blown on them, if they seem to need it; and thirdly, the binoxide is given in the doses above mentioned. A very small quantity of the drug is given, and it can be kept up for long periods without injury to the patient. He said nothing of stimulants and nourishment, but he gives them in large quantities. He also gives syrup of the iodide of iron when there is evident depravity of the blood. The iodide of potassium being highly diffusible, and possessing some antiseptic properties, as was evidenced by his having kept the urine of patients taking this remedy for months without the occurrence of decomposition, acts both as a germicide and vehicle. For this reason the strength of the solution of iodide should be as great as the comfort of the patient will permit.

The use of small doses frequently repeated is to insure a constant flow of the germicide through the system. Out of 14 cases treated last winter, there were 3 deaths, and these 3 cases were the only ones treated without the biniodide of mercury. In the first case the peroxide of hydrogen was used alone; in the second the treatment, as advanced in this paper, was used, except that the bichloride was prescribed instead of the biniodide; and in the third, which had been treated with chlorate of potash and tincture of iron, before being called into consultation, the peroxide of hydrogen and pepsin were used locally.

Dr. Nunn then gave the history of several successful cases illustrating his treatment. In none of these cases though some were severe, were there any sequelæ. In one family he had been able to trace the origin of the disease to defective plumbing. Great stress must be laid upon the kind of mercurial treatment. The biniodide given in the manner described above, was much more efficacious than any other he had tried. This treatment was not offered as a specific, but simply as having been successful in the case mentioned, and, granting the germ theory in this disease, theoretically sound.

To summarize the treatment, it included: 1st. A blood antiseptic, which is also 2d. A local germicide. 3d. A softening agent or digester of the membrane, and 4th. A solvent of the membrane.

Dr. Walter, of Little Rock, Arkansas, said the profession in his section had tried the biniodide of mercury, but had laid it aside. He had had very poor results from his treatment at first; later, with the use of tincture of iron and chlorate of potash and vaporized water, he had been more successful. He favored the expectant treatment, the main reliance being placed on stimulants and feeding.

Dr. J. Weichselbaum, of Savannah, had used the same treatment as Dr. Nunn with great success.

Dr. Catlin, of Wisconsin, had used nearly all the remedies recommended for diphtheria except the present. Had had a great deal of experience. In one epidemic in his section of the country, there were some 500 or 600 cases in a total population of about 7000. Sometimes he never lost a case, at others he was not so successful. Epidemics varied very much in virulence. He commenced his treatment, generally, with a heavy dose of quinine, sometimes twenty grains. He followed this with a saturated solution of chlorate of potash and with tincture of iron. He depended largely upon stimulants and nourishment. He thought at one time he could always cure diphtheria. He was disabused of this, by losing 11 out of 14 cases in the same family.

In another epidemic he lost 8 cases out of about 150. His method of using chlorate of potash solution is to gargle and swallow a drachm afterwards. He had tried the bichloride without marked results.

Dr. Nance, of Illinois, had never seen a case recover after the voice had been suppressed. He asked Dr. Nunn how the peroxide of hydrogen acted.

Dr. Upham, of Vermont, had seen a great deal of diphtheria since 1860. His experience with the disease had been sad, and he has no treatment he can unhesitatingly recommend. He has seen the most violent case suddenly take a turn for the better and recover. On the other hand, he has seen mild cases, apparently convalescent, drop down dead. He does not think too much alcohol can be given. He has seen a child take a pint and a half of whiskey in a day with good results. He treats this case as he would any other case of blood poisoning.

Dr. Holliday, of New Orleans, thought the disease milder, as a rule, than formerly. Many cases lead to the belief that the disease is local; others conclusively disprove this. If the diphtheria can localize, the patient is apt to recover, with plenty of nourishment and stimulants. If it does not have that tendency, the symptoms of blood poisoning are severe and the progress to a fatal end generally rapid. He has seen cases recover after loss of voice had occurred, but this was, he thought, only when the aphonia was due to slight œdema of the larynx from its proximity to the inflamed surfaces. When the membranes invaded the larynx and trachea, he did not think there was any hope of recovery.

Dr. Nunn, in conclusion, said that the peroxide of hydrogen acted as a solvent and disinfectant to the membranes. It was a harmless remedy and could be given to the parents to use *ad libitum*. He laid special stress on his method of using the biniodide in combination with iodide of potassium.

DR. L. DUNCAN BULKLEY, of New York, then read a paper on

REPEATED DOSES OF CASTOR OIL ESPECIALLY IN CERTAIN SKIN DISEASES IN CHILDREN.

He said that, though castor oil was a very old remedy, it had only been given in large single doses from time to time, or in very small doses continuously in emulsion for the relief of diarrhœa and dysentery. He thought he was the first to give it in doses of some size, daily, for any considerable period. The cases described in illustration of the treatment, had all been treated successfully with other remedies, and showed relapses when the treatment was left off too soon or through some negligence of the patient, and it was noted also that tonics and other remedies, which before had disagreed or proved inefficacious, became useful adjuvants to the treatment. Most of the cases were accompanied by torpor of the bowels and accumulation of feces in the colon, but some were benefited even when this was not the case. The doses were regulated so as not to produce purging.

The first case, one of chronic urticaria, in a child of six years, was given castor oil in teaspoonful doses once a day for one month, and for shorter periods on three other occasions. This, together with adjuvants of quinine, tonics, and lactopeptine, accomplished a cure, the disease having been exceedingly rebellious to remedies before. In a number of cases of infantile eczema the same treatment was used with great benefit, in one of these cases an accompanying ulcer of the cornea, which had resisted treatment in the hands of oculists, yielded in a remarkable manner.

Dr. Bulkley next reported a case of acne simplex and rosacea of several years' standing, complicated with ulceration of the cornea. The treatment was suggested by the success above recorded. The patient was twenty-six years old and took continuously two to four teaspoonfuls for something over a month, with great improvement. The treatment was continued sometime longer with the addition of tonics, with the happiest results. The next case, one of tonsillitis recurring monthly, was also successfully treated in the same manner. The treatment lasted six months.

These cases, together with a number of others, prove that castor oil in suitable doses may be taken with advantage, repeatedly, for a considerable period of time. The oil acts as a stimulant to the abdominal organs, the apparently tonic action being due largely to the improved absorption and assimilation. Many cases of urticaria and tonsillitis are due to reflex irritation from the intestinal tract, and are thus benefited by the oil. As to the administration of the oil, if a good quality is obtained and a lump of ice is held in the mouth before taking a dose, then wipe the mouth thoroughly so as to remove any oil that sticks to it, and finally take a drink of ice water. Thus administered, it is not a bad dose to take. The oil should not be mixed with coffee, whiskey, or anything else. Children often become fond of it. In conclusion, castor oil is not offered as a panacea for all evils; a great deal of the success in the cases mentioned was due to the medicine given with it. On the other hand, in certain conditions no remedy has been found to equal it.

MEDICAL ASSOCIATION OF MISSOURI.

Twenty eighth Annual Meeting, held at St. Joseph, May 12, 13, and 14, 1885.

(Specially reported for THE MEDICAL NEWS.)

THE PRESIDENT, DR. H. H. MIDDLEKAMP, not having arrived, the Association was called to order by VICE-PRESIDENT W. E. EVANS, of Booneville. An address of welcome was delivered by Mayor Hartwig, and Dr. J. W. Heddens, in behalf of the local profession, tendered to the visitors an invitation to visit the various places of interest about the city. At the request of Dr. Evans, an appropriate response was made by Dr. Trader, of Sedalia.

On motion of Dr. Trader, it was resolved that a committee be appointed to prepare a memorial of the late Dr. P. V. Schenck.

The Association then adjourned until 2 P.M. At that hour Dr. Middlekamp took the Chair.

DR. J. W. TRADER, of Sedalia, presented a paper on

CHLOERA.

Having made up his mind that hypodermic administration promised the best therapeutic results, he had prepared himself before the last cholera season with solutions of quinine, morphia, and atropia. He also had a glycerole of chloroform, and a glycerole of carbolic acid. He was called on to treat an elderly woman whose symptoms were so severe that he thought there was no hope of saving her life. He thought he would relieve her distress somewhat, and gave her a teaspoonful from one of his bottles. Soon she demanded to be told what he had given her, as she was sure that she was dying from the effects of it. On looking a second time he saw that he had given the glycerole of carbolic acid instead of the glycerole of chloroform as he intended. In a short time the woman became somewhat easier. The doctor left her, expecting nothing but death, but the next day he found her up and about, and apparently as well as ever. Since that time he had commonly made use of a mixture of the two glyceroles referred to with mint water in the treatment of cholera from diarrhœa.

In the discussion which followed, quite a number of members took part. All seemed to think well of hypodermic medication in this disease, but there was a difference of opinion to the value, prophylactic and curative, of germicide remedies.

DR. STRINGFELLOW, who saw much of the disease in 1849, then formed the opinion that large doses of calomel constituted the best treatment. Now he would favor the use of small doses of the bichloride as a prophylactic. He thought much was to be hoped for from prophylactic treatment.

DR. FISCHEL called attention to the utterly unsettled state of the views of the advocates of the germ theory so far as it related to cholera, and called attention to the successful inoculations lately made in Spain. He also referred to the use of atropia by the late Dr. John. T. Hodgen in the collapse of cholera, as a means of tiding over the period of danger and giving the patient a further chance of life.

DR. PREWITT called attention to the fact that death does not usually occur in the course of the vomiting,

but after collapse, and that any remedy which will ward off collapse will be valuable in treating this disease. Collapse he compared to the shock following serious injuries, a vaso-motor paralysis. In his opinion, the hypodermic injection of morphia at an early stage gave most promise of successful results.

Dr. Todd, of Kansas City, gave a brief exposition of his proposed treatment of cholera by the subcutaneous injections of large quantities of bland fluid which he calls artificial serum, and the administration of hot drinks in abundance, acidulated with sulphuric acid. No cold drinks are to be allowed.

Dr. Trader closed the discussion with the remark that he was disposed to attribute the successful result in his case to the anæsthetic effect of the carbolic acid rather than to any germicide action.

Dr. J. C. Mulhall, of St. Louis, then read a paper on

ATROPHIC NASAL CATARRH,

or, as he preferred to call it, atrophic rhinitis. He claims that this disease is not a sequence of hypertrophic rhinitis, and does not believe that it is the consequence of severe colds in the head. He considers it to be of neurotic origin. A coryza in a child is not likely to become fetid unless there be a strumous condition. He defines struma as a condition of impaired vitality produced by some depreciated state of health in one or both parents when the child is begotten.

A coryza in an otherwise healthy child is readily contracted and speedily recovered from. The fetid coryza of atrophic rhinitis has no tendency to spontaneous recovery, and is not susceptible of cure. The treatment is only palliative, and consists in securing scrupulous cleanliness and constitutional tonic medication. He instructs the patient as to the use of the douche anteriorly and posteriorly.

Dr. T. F. Rumbold, of St. Louis, took issue with several of Dr. Mulhall's statements. He claimed that atrophic rhinitis is *always* a sequel of the hypertrophic form of disease. He also asserted that the adjacent cavities are almost always involved, and that the crusts and discharges in the nasal passages are almost always derived from these other cavities. If these cavities can be reached with treatment, the disease can be cured.

Dr. Mulhall said that the post-mortem researches of Zuckerkandel showed that the adjacent cavities are not involved in this form of disease.

Dr. C. H. Hughes, of St. Louis, Chairman of Committee on Psychological Medicine, then read a paper on

SOME NEGLECTED PRECURSORY SYMPTOMS OF CEREBRAL DISEASE,

noting various forms of altered nervous action, including the various forms of causeless fear.

Evening Session.

Dr. J. H. Thompson, presented the

REPORT OF THE COMMITTEE ON OPHTHALMOLOGY.

The special evidences of advance which he presented were facts concerning the use of jequirity and cocaine, and the treatment of glaucoma by the stretching of the infratrochlear nerve. He also noted with growing favor a tendency to discard large probes and cutting instruments, and the use of small probes in treating stricture of the lachrymal duct.

Dr. F. J. Lutz, of St. Louis, then read a paper concerning

DISEASES AND TREATMENT OF CICATRICES.

He related two cases, one of them being a case in which epitheliomatous degeneration of the cicatrix produced by a compound fracture of the tibia, had necessitated amputation of the leg. He exhibited the bone specimen. The other case was one in which he had operated for the relief of the deformity produced by an extensive burn involving a large part of the trunk, the upper half of the arm being bound down to the side of the thorax by the contraction of the cicatricial tissue. The result of the operation, as shown by the photographs presented, was a most satisfactory one.

Dr. T. F. Prewitt, of St. Louis, stated that he had seen a number of cases in which epitheliomatous or sarcomatous degeneration had taken place in cicatricial tissues or in ulcers. He also spoke of the indebtedness of the profession to Dr. Post, of New York, for his teachings regarding the treatment of burn cicatrices, especially those causing deformity of the hands. He also related cases where he had relieved deformity of the face caused by cicatrices following wounds by means of subcutaneous incision, elevating the depressed point and bringing the cut surfaces into apposition by deep sutures.

Dr. George Halley, of Kansas City, called attention to the more favorable prognosis in cases of epitheliomatous degeneration developing in cicatricial tissue over that developed in what would appear to be normal tissue.

Several speakers advocated early removal of epitheliomatous or scirrhous growths.

Dr. J. W. Jackson, of Sedalia, stated that he has operated a number of times for scirrhous mammæ, and in every case the growth has returned. He did not state at what stage of development the operation was made.

Dr. J. P. Kingsley, of St. Louis, then read a paper on

MALARIA IN CHILDREN,

basing his account upon personal observation of several hundred cases observed in dispensary and private practice. He had seen the disease in infants of only a few days; thinks the child may be affected by the milk nursed from a mother who is suffering from malarial poisoning. The diagnosis is often difficult in children; chill is slightly pronounced, sweating stage absent, cachexia develops early, enlargement of spleen is frequent. Sometimes there are irregular nervous symptoms. Quinine in doses of two or three grains three times a day, or to a child five years old five drops of Fowler's solution of arsenic three times a day, should be given. Where these are not well tolerated, he sometimes gives with advantage tincture of iodine and carbolic acid, and in some cases uses the cold wet pack.

Dr. Nelson, of St. Louis, related the case of a child, two years old, with a spleen enlarged to such a degree as to extend from the border of the ribs to the crest of the ileum. Under the use of cinchonidia this was reduced to about normal dimensions in the course of ten days. He had used inunctions of quinine in fresh lard with good results in patients not over one year of age.

Dr. F. M. Johnson, of Kansas City, did not credit the belief that little children do not have the chill. He thinks it does exist, but the child cannot describe his sensations.

Dr. Stringfellow was doubtful whether the little ones have malaria at all. He discarded quinine in treating infantile "malaria" some time ago, and now gives only small doses of calomel with most satisfactory results.

Dr. Simmons thought that in cities and thickly settled country districts the chill is much less distinctly pronounced than in open country locations.

Dr. Fischel, of St. Louis, thought that a majority of the cases of fever in infancy which are usually regarded as malarial, and are treated with quinine, do far better under the use of small doses of calomel without any quinine.

Wednesday, May 13th.—Second Day.

After the usual routine business, a committee was appointed to nominate officers for the ensuing year.

Dr. Catlett, of St. Joseph, read a paper on

the asylum treatment of the insane.

Dr. Griffith, of Kansas City, then brought before the Society a lad of about fourteen years of age, who had suffered from

deformity as the result of morbus coxarius

since two years old. The thigh was flexed upon the abdomen and ankylosed, and the leg was flexed upon the thigh. Dr. Griffith had made a subcutaneous division of the thigh between the head and trochanter major, and after division of the hamstring tendons had straightened the limb and applied a plaster-of-Paris dressing. The result had been most satisfactory, the boy being able to walk about the room with only a cane, though generally using a crutch as well. A considerable amount of motion of the artificial joint was found.

Dr. H. H. Middlekamp, of Warrenton, then delivered

the presidential address.

He urged the importance of higher medical education, favored compulsory three-term schools, emphasized the responsibility of the general practitioner as a preceptor, recommended a State board of medical examiners, advocated the establishment of a medical library by the State Medical Association, and recommended the formation of a number of new standing committees.

A special committee of five was appointed to consider and report concerning these recommendations.

Dr. Hanna then presented a report on behalf of the Committee on *Diseases of Children*, after which the Special Committee presented a fitting tribute to the memory of Dr. P. V. Schenck, which was adopted by a standing vote.

Dr. B. F. Wilson, of Salisbury, read a paper on

typhoid fever.

He objects to direct antipyretic treatment, believing that the evolution of the increased amount of heat is a necessary part of the disease, and that attempts to prevent it are futile and tend to prolong the disease. In some cases he gives calomel in the commencement of the disease. If there is a very marked variation in the temperature, he gives quinine, but the agents on which he specially depends are opium and alcohol.

Dr. J. M. Allen, of Liberty, believed that the indications are to keep down the temperature, and "obviate the tendency to death." He thought the universally present tendency to cardiac failure should be met by the early and continued use of digitalis. He did not favor the use of large doses of quinine in these cases, but did advocate cold packing or a partial pack.

Dr. G. M. Dewey, of Keytesville, urged a milk diet and little or no medicine.

Dr. Records had tried the treatment with large doses of quinine, and thought the course of the disease had been prolonged thereby. He had come to rely almost entirely on a mlik diet.

Dr. O. D. Fitzgerald, of Lathrop, had read the article on Typhoid Fever in Ziemssen's *Encyclopædia of Medicine*. In accordance with the views there advanced he had given large doses of quinine to typhoid fever patients. He was convinced that the quinine lowered the temperature of these patients, but the trouble was that "some of them stayed cool." He was satisfied that fatal results in some cases were referable to the medication. He was a strong advocate of "the cooling bath," putting the patient into a bath at a temperature of 100° F., and allowing it to cool down of itself for twenty minutes or half an hour. He opposed the use of opium, but used milk freely, peptonizing it if necessary; and thought digitalis dangerous to continue any length of time.

Dr. Hanna advocated alcohol early in the disease.

Dr. Stringfellow urged the administration of salicylic acid.

Dr. B. F. Hart, of Brownsville, from the Committee on

collective investigation of disease,

presented a report giving the results of an investagation with regard to pneumonia. This called out a very animated discussion in which a number of members participated.

Dr. Nelson, of St. Louis, after a few remarks, offered a resolution that the Committee on State Medicine be requested to consider the urgent necessity of the establishment of an institution for the

care and education of idiotic or feeble-minded children,

and the importance of the establishment of a central institution for the reception of the chronic and incurable insane, in order to relieve the pressure of overcrowding in the other institutions, and allow more systematic classification and more effective treatment. The resolution was adopted.

Dr. A. J. Steele, of the Subcommittee on

orthopædic surgery,

then read a report in which he presented his views with regard to the treatment of clubfoot and some other deformities, and exhibited some appliances which he has found serviceable in treating such cases.

Dr. Funkhouser, of St. Louis, then read a paper on

"the determination of sex."

He related the result of a large number of experi-

ments which he has performed on dogs, rabbits, and domestic fowls, all tending to demonstrate the truth of the view which he holds, viz., that the sex is dependent chiefly upon the testicles, and is little controlled by the ovary. He holds that an ovum impregnated with sperm from the right testicle will produce a male, one impregnated with sperm from the left testicle will produce a female.

Several members took part in the discussion, and several cases were related which would seem to oppose Dr. Funkhouser's theory.

PLACE OF NEXT MEETING.

On motion of Dr. A. J. Steele, it was voted to convene in St. Louis, at 10 A. M. of the Monday preceding the first day of meeting of the American Medical Association.

Dr. Brookes, of Carthage, then read an interesting paper in which he related his own extensive experience in the *Treatment of Injuries of the Larger Joints.*

The Association then went into an

ELECTION FOR PRESIDENT,

and after several ballots, Dr. G. C. Catlett, of St. Joseph, was declared elected, and the vote was immediately "made unanimous." This election will be eminently satisfactory to the profession throughout the State.

The Society then adjourned to the Pacific House, where

A BANQUET

was prepared, the members of the Association being entertained by the local profession and prominent citizens of St. Joseph.

Thursday, May 14th.—Third Day.

At the closing session, the Governor of the State was present and made a short complimentary address.

A report on the *Progress of Surgery*, by Dr. W. F. Walker, of Mexico, a paper on *Ovariotomy*, by Dr. J. U. Heddens, and a report on *Progress in Gynecology*, were read by title.

Dr. D. H. Shields, of Hannibal, of the Committee on State Medicine, made a verbal report as to

THE STATUS OF MEDICAL LEGISLATION

in the State, reviewing the action taken in regard to the State Board of Health, and explaining that the failure of the legislature to appropriate any fund for the Board was due to strong prejudice against the personnel of the Board as then constituted. He offered a resolution endorsing the law establishing a Board of Health, and urging the Governor to appoint representative men upon the Board.

THE REPORT OF THE COMMITTEE ON NOMINATIONS

was then presented and adopted.

Vice-President.—Dr. C. A. Todd, of St. Louis.

Recording Secretaries.—Drs. J. H. Thompson, of Kansas City, and J. C. Mulhall, of St. Louis.

Corresponding Secretary.—Dr. F. J. Lutz, of St. Louis.

Treasurer.—Dr. C. A. Thompson, of Jefferson City.

MEDICAL AND CHIRURGICAL FACULTY OF MARYLAND.

Eighty-seventh Annual Meeting, held at Baltimore, May 12, 13, and 14, 1885.

(Specially reported for The Medical News.)

Wednesday, May 13th.—Second Day.

The President introduced Mrs. E. P. W. Packard, of Chicago, who, on motion, was allowed to address the meeting on the importance of the passage of

LAWS REGULATING THE TREATMENT OF THE INSANE.

Laws, similar to the one she advocated, exist in nineteen different States. The condition of the insane in our asylums is such that it becomes us, as humanitarians and philanthropists, to pay attention to it. We live in a republic; but the inmate of an insane asylum lives under an autocracy as much as if he were ruled by the Czar of Russia. The superintendent has absolute control over him; and however good the superintendents may be, the mere possession of such a power is dangerous, as it is so liable to abuse. Some persons who may be the victims of the jealousy, revenge, or of greed of others, may be incarcerated in the institutions established for the insane, and when there they are removed from the protection of the laws. This should not be so. These institutions being in a republic, should partake of the spirit of a republic and not resemble the Bastile. The inmates should be allowed, as citizens of the United States, their post office rights. At present there is a censorship over all letters written by the patients to their friends, or letters received by the patient. This is radically wrong. A sane person may be unable to communicate with the outside world, and so have no redress.

The law Mrs. Packard is urging, allows each inmate to choose one individual to whom he or she may write once a week without censorship. Mrs. Packard had visited Washington and obtained from the government assent to her proposition to allow a United States Post Office box to be placed in all asylums, public or private, in those States where this law was adopted. The patient is to choose the individual to whom these letters, that are exempt from inspection, shall be addressed; and the individual so chosen may be changed every three months. The reply of the individual is sacred from inspection. The envelope must have the name of the person sending it upon it so as to insure safety. These provisions are very simple, yet it allows just that means of communication with the outside world that is needed. Where censorship is practised over all letters, it is impossible for sane people, unjustly detained, to make their state known, or for persons who have been maltreated to complain. No letter of complaint will be allowed to go from the walls, nor will patients be discharged till their bruises have been healed. Such absolute power should not be in the hands of one man.

In Illinois, the first day after the law was in force, it was found that about one hundred persons were being wrongly imprisoned. In Maine there were between fifty and sixty in the same condition. This result was very startling, yet it showed how necessary this law is.

On motion, Mrs. Packard's suggestions were referred to a committee already appointed on the subject of

the insane, and a vote of thanks was passed for the address.

DR. ROBERT W. JOHNSON, from the Section on Surgery, read a paper on the

RECENT ADVANCES IN SURGERY.

He said that he would only treat of *some* of the advances made in this department, for the desire of the fame of new operations or procedures is so great among surgeons that the attempt to describe any considerable proportion of them would be impossible. He first referred to the local anæsthetic properties of the solution of muriate of cocaine, which is one of the most brilliant discoveries of the year. Not so much can be said of the new method of administering ether by means of the rectum. It is a method seldom required, and does not compare in ease and comfort to the inhaler. Chloroform has had its victims this year, yet in spite of this there are surgeons who still use it, though their own patients have died under its use. He expressed the opinion that any surgeon who henceforth uses chloroform, except in cases of obstetrics or where ether is not available, should be held responsible.

Passing on to the subject of surgical dressings, he spoke of the lessening popularity of the Lister spray, and of the still intense battle that is being waged between the advocates of various methods of dressing, there being but one point of unity and that being cleanliness. Hydrophobia is a disease that appears to be about to yield up its "baneful ghost" to science, owing to the experiments of Pasteur. The reporter thought that another decade might perhaps witness the bringing under control of zymotic diseases either by means of attenuated virus or by some germicide.

He then alluded to the operation of Godlee on a cerebral tumor, and spoke of the advance that had been made in our knowledge of the intracranial cavity. He concluded by reference to the operations on the thorax and abdomen. In the former, the aspirator is the most popular instrument. Resection for gangrene and drainage of tuberculous cavities has not met with promising success.

He advocated the use of disinfecting spray in all cases of laparotomy, on the ground that these were performed as a rule in general hospitals, where students and assistants have access, late from the dissecting-room or equally contagious surgical cases. Where the spray has been used, even where no restrictions have been put upon the attendants, the results have been most successful.

He passed in review Tait's operation of stone in the gall-duct, and the new operations for the permanent cure of hernia, which have yielded brilliant results, and closed with referring to the operation in this city for resection of the pylorus by Prof. R. Winslow, which ended fatally and the successful removal of a renal calculus, weighing 556 grains, by Prof. Tiffany.

DR. JNO. MORRIS, Chairman of Section on Obstetrics and Gynecology, reported on

GYNECOLOGY

under various heads.

Constitutional Treatment. There seems to be a turn in the tide in regard to this question. He referred to Drs. Albutt and Potter, who have but voiced the growing sentiment of the profession in regard to the immense amount of local surgical and medical treatment of the womb. Nervous disorders are more common in women than in men, and the practice adopted by some of specially treating every slight displacement or leucorrhœa by local treatment is not only foolish, but positively injurious to the woman. Much more can be done by general treatment than many suppose, and, in any case, the practice of confining treatment to the uterus to the neglect of constitutional treatment is becoming more and more condemned.

Pessaries. He condemned pessaries. Ten years since he read a paper, then deemed heterodox, before the American Medical Association, taking this ground. He thinks now that opinion is coming round to his side, and he referred to Dr. Bigelow's recent paper on the subject. The pessaries distend the vagina and injure its power of supporting the womb; they act as foreign bodies and set up irritation. They often cause tenesmus; they have produced much harm and little good. All the good effects produced by them can be fulfilled by cotton tampons. These adapt themselves to curves and position, and will not interfere with any of nature's laws, and are consequently scientific appliances.

Incision of the Cervix Uteri and the Use of Tents. These procedures are falling somewhat into disrepute as dangerous. As a substitute for them, Dr. Morris described Dr. Wm. Goodell's operation of rapid dilatation, which he much praised. His opinion, however, was that the plan of performing the dilatation at one sitting was too severe and harsh. He would suggest a longer time being taken and that the dilatation be carried on at successive visits. This gradual procedure would necessitate dilators of various sizes.

Emmet's Operation for Lacerated Cervix. This has met with very little acceptance and is now fallen into disfavor. Very injurious consequences have followed from it, as cellulitis, hemorrhage, sterility. Even Emmet has felt it necessary to discourage its indiscriminate use. Dr. Morris hoped that in future greater conservatism would be exercised in this as in other gynecological procedures.

Lacerations of the Urethra. Dr. Morris entirely condemned Dr. Emmet's suggestion of a "buttonhole" operation for the diagnosis of this accident. If it be suspected, much simpler measures will suffice for its detection.

Operations for Lacerated Perineum. The operations heretofore in use have been on the whole unsatisfactory. He described Emmet's and Schmidtmann's operations, both of which he approved, especially the latter.

The Alexander-Adams Operation on the Round Ligaments. After describing this operation he continued: "In the opinion of your reporter this operation is not only useless but unjustifiable. It is the outgrowth of a morbid desire for gynecological novelties which appears to be increasing every year." Some benefit may accrue if there be no adhesions, but the diseased state cannot be remedied, and it must ultimately prove a dangerous operation.

Extirpation of the Uterus for Cancer. The weight of evidence for this operation, which has occasioned so much thoughtful inquiry and discussion during the past year, has been by no means favorable to it. In 137 cases where this has been performed by abdominal sec-

tion 72 per cent. died; of the 276 cases by the vaginal method, 28.6 per cent. died. While better results for the future by the methods employed by Olshausen and Schröder may be expected, the present conclusion is that for cancer of the cervix the operation is entirely unjustifiable, while for cancer of the body its justifiability is doubtful.

Extra-uterine Pregnancy. Through Lawson Tait and Prof. Freunde and others our clinical knowledge of this condition has much increased. After discussing the various views held by the observers mentioned, he said that the general opinion of the profession is that operation should not be undertaken at the time of the rupture of the sac, but be postponed till after recovery from the shock.

For the purpose of destroying the fœtus electricity has been used with great success. It must be employed before the termination of the third month of pregnancy. It not only kills the fœtus but produces its absorption. For the first, the faradic, for the second the galvanic current should be used. One electrode in the vagina is to be applied to the uterus and the other over the hypogastrium.

Therapeutics in Gynecology. Muriate of cocaine affords relief in vaginismus, but it is only temporary. It promises to be, however, a valuable local anæsthetic in gynecological operations. The permanganate of potash has been recommended as an emmenagogue, but it has not yet been verified. Dr. Morris thinks ergot to be the only drug that acts specifically on the uterus. Iodoform is undoubtedly a valuable agent in uterine surgery. It can be used in solution, with ether or carbolic acid and glycerine, or in slender crayons made with gum, and introduced into the cervical canal. Several deaths have occurred during the year from intra-uterine injections of bichloride of mercury. This remedy is dangerous when kidney complications exist.

DR. L. E. NEALE, of the same Section, then gave a lengthy and interesting report on

OBSTETRICS.

He spoke of the advances made in this branch during the year, and began by citing Tarnier's communication on "Combined Turning in the Treatment of Placenta Prævia." Statistics of results in this condition show a high mortality when other measure are employed. The ordinary death-rate is twenty-four per cent.; while the very best are twenty-two and a half per cent. The statistics of this method, which was introduced by Braxton Hicks, in 1860, show a mortality of four and a half per cent. in the hands of a good operator, and even if we take the worst possible showing, including cases where previous measures had been undertaken, the mortality is still only ten per cent. In view of these facts it seems wonderful that it is not more generally practised. He then gave a minute and clear description of the method, and then summed up as follows the advantages of combined version:

1. It does away with the tampon, and with the dangers of infection and loss of time this involves.

2. It allows us to operate early, *i. e.*, when not much blood has been lost.

3. It arrests hemorrhage with great certainty.

4. It gives the patient time to rally, gives time for the cervix to dilate, for pain to set in. It, therefore, prevents post-partum hemorrhage, laceration of the cervix, atony of the uterus. The operation rests upon solid experience and not upon mere theory.

The use of the tampon should be restricted to cases where the os is undilatable, and then its use is only temporary. Of course, the combined method is not applicable to all cases, such as when the child is fixed in the strait and the labor pains are severe. Again there are times when the child is in the transverse position and the labor is somewhat advanced, where this method cannot be employed, and where destruction of the child is necessary. In regard to the child, clinical results show that the prognosis in the combined method is no worse—indeed, a shade better—than with other plans of treatment.

Dr. Neale reported a case of placenta prævia which had occurred in his practice during the year. The woman, a German emigrant, after having suffered a considerable hemorrhage on shipboard some twelve hours previously, entered the hospital. Examination revealed a dead fœtus *in utero*, membranes ruptured, waters escaped, placenta partially torn away, and os readily admitting the hand. Internal podalic version and extraction were performed, the intrauterine douche administered. Rapid and uninterrupted recovery followed.

The speaker then turned his attention to the obstetric forceps. After referring to the mania for "improving" them, he said that Simpson's forceps are the ones most used abroad, and that they are gaining in favor in this country. There are a certain number of cases, however, where the head is impacted in the pelvis brim, where Simpson's, or, in fact, any forceps except Tarnier's, are dangerous and impracticable. These last represent the first successful attempt to assist the efforts of nature by traction, with an instrument, with safety to the soft parts in the direction of the axis of the superior strait. The disadvantages of Tarnier's forceps are: 1, unwieldiness and complexity; 2, liability to lacerate the soft parts. Some have taught that when the head has been brought down to the inferior strait, they should be removed and Simpson's forceps substituted. Others, including Prof. William T. Howard, of this city, have urged that with care Tarnier's would complete the delivery with safety to the mothers's soft parts. Some say that Tarnier's allows too great liberty to the head to rotate unfavorably, forgetting Tarnier's direction to make pressure with the fingers of one hand in the desired direction upon one handle of the introduced blades, while steady traction was being performed by the other hand. Again the objection has been urged that it necessitates two instruments—Simpson's for simple and Tarnier's for more difficult labors.

To meet these objections, Dr. Neal presented an instrument of his own, which he said combined the excellences of both in such a way that one instrument only would be necessary in either class of cases. The points of this instrument are as follows:

1. We have Simpson's forceps practically unaltered.

2. The Tarnier axis traction rod to be used or not at the option of the operator.

3. By removing the compression screw and the handle to the traction rods, when the head is low down, without removing the forceps from the head, delivery may be completed by the unaltered Simpson, thereby subjecting the perineum to as little risk as possible.

4. By employing the fixation bar concealed in the handle to the traction rods, rotation may be governed (so far as lies in the power of the operator with any instrument), without touching the handles of the introduced blades, thus allowing them to act as an index by which we can determine the position of the head.

5. Compression by the screw may be instantaneously varied at option.

6. The instrument combines in the least complex and most practical manner the two principal forceps of the present day, viz.: The Simpson and the Tarnier, giving us either one or the other in the same forceps as desired.

Dr. Neale demonstrated the use of these forceps on a manikin and afterward the instrument, was passed around for examination. The traction rods are secured to the Simpson blades behind the fenestræ by means of a buttonhole joint. He then showed or described several instruments used abroad in obstetric practice. Among these was a glass tube for intrauterine douche upon the puerpera. It is a simple glass tube with a bulbous extremity and a constricted neck to allow free escape of the injected fluid. It has a sigmoid flexure which not only facilitates its introduction, but prevents its being inserted too far. Being glass, it is cheap and easily cleaned.

He then proceeded to explain Schultze's method of artificial respiration in the asphyxia of the newly born. He described a case in his own practice in which, after trying Marshall Hall's, Sylvester's, and other methods in vain, he succeeded in this after ten minutes.

The entire procedure is divided into two acts of inspiration and expiration, with a rest after each.

Grasp the child firmly by the shoulders—the thumbs being placed in front of them and the forefinger just behind the shoulder, and the three remaining fingers over the shoulder-blade. Stand with your legs conveniently apart, and thus hold the child. The position now will correspond to the inspiration as the chest is expanded by the child being held by his shoulders.

1. Rapidly elevate the child at arm's length as the body is correspondingly erected until the arms are about at right angles to the body or somewhat above the horizontal. Then suddenly stop the upward movement in such a manner as to cause the child to fall together upon itself, while the thumbs support the weight of its body by pressure upon the anterior thoracic walls. This corresponds to the rest or pause after complete expiration, during which time fluids, mucus, etc., may escape by gravity, from the respiratory passages.

2. Now, lessening the thumb pressure on the chest and hooking the thumbs over the front of the shoulders, the child is *rapidly slung forwards* and *downwards* into the first position. And so the regular respiratory movements should continue in systematic manner until the object is accomplished or the case prove fatal.

Dr. Neale then reported two cases of post-partum spontaneous expulsion of submucous non-pedunculated uterine fibroids. The first was discharged twelve hours after delivery; the second on the eighth day. The Doctor said he had not been able to find any mention of such cases in English text-books, and only most cursory notices by foreign authors.

He closed his report by speaking of abdominal palpation as a means of diagnosis in the physical exploration of the pregnant female, a method too much neglected in this country. He illustrated its application upon a manikin.

THURSDAY, MAY 14TH.—THIRD DAY.

DR. JOHN S. LYNCH, Chairman of the Section on Practice, reported his

EXPERIENCE WITH ANTIPYRIN IN FEVERS.

His attention had been called to this drug during the past year. He regards it as one of the most important therapeutic agents recently given to the profession, almost equal to quinine in its value. Its chief action is upon the temperature of the body, and this action is almost certain. His first trial of it was in the case of one of our colleagues, Dr. Kinnemon, whose death occurred during the latter part of last year. He was suffering from phthisis, and all the usual medicines employed to check the rise in the temperature had proving unavailing. After a great deal of difficulty he procured some antipyrin and tried it on him with the result of at once lowering the temperature and improving the condition of the patient. He has no doubt that had he been able to obtain antipyrin longer this patient's life would have been much prolonged. He said he had used it in a number of similar cases with constant effect. In rheumatism it is fully as efficacious in his hands as salicylic acid; he has used it in dysentery and in a great number of febrile affections. He regards it as a perfectly safe remedy. The only disagreeable effects which he has noticed are that it sometimes causes nausea, and that the first dose will sometimes give rise to profuse sweating. The former is readily controlled by suspending the drug and it is a curious fact in regard to the latter that the sweating is only brought on by the first dose. The subsequent doses are fully as effective in lowering the temperature but they do not cause the sweating. He was more ready to call attention to this drug, as he believed it was not in general use among the profession. The chief objection to the drug is its expense. As it is a product of coal-tar, and made from what was formerly considered to be refuse matter there is no doubt that it will come down in price after awhile. The dose of the drug is about seven and a half grains, and may be increased to fifteen grains.

DR. R. H. THOMAS said that his experience with antipyrin was very limited, but he had for about eighteen months been using kairin in cases similar to those mentioned by Dr. Lynch. Kairin acted well in much smaller doses than was recommended by European journals. He had found five to ten grains sufficient if given hourly. Kairin is a drug that must be carefully watched, as if continued too long it will cause too great depression of the system. His rule is to give it in five to ten grain doses every hour, having the temperature watched, and to stop it as soon as the temperature reaches 99°. The effect can then be continued by quinine. This can be done even when quinine has failed to produce effect before. If used in this way with care, he has learned to regard it as a valuable and reliable antipyretic.

DR. R. WINSLOW said he had used kairin in but one case. It then reduced the temperature, but brought on very alarming depression. He would certainly only use kairin where there was a nurse who could watch the temperature.

Dr. Lynch had used kairin in one case in two grain doses hourly without effect. He was surprised to hear that Dr. Thomas had success with it in such small doses.

Dr. Thomas said he had been surprised also, but the fact remained. He had once seen two grains effective in an adult, but only once. Most of the cases in which he had used five grain doses were under 20 years of age. He did not remember to have ever given over ten grains at a dose.

Dr. D. W. Cathell, read a volunteer paper on

RECTAL MEDICATION.

He spoke first on the rectum as an absorbing cavity and then said that he would confine his remarks to the use of morphia and belladonna in this way. He does not use medication per rectum in preference to the usual method by the mouth, but a number of cases arise where the stomach should be left at rest to perform its proper digestive functions, and yet where drugs are needed by the system. His favorite method of administering the drugs in question is to give them combined. The combination seems to unite all the good qualities of the two drugs and to lessen the unpleasant effects of each. He referred to a number of cases in which he had used these remedies together in this way, such as, "ulceration of the prostate gland" where after long agony the relief under this method began to be observed at once; vesical tenesmus; senile hypertrophy of the prostate gland, when the patient from being obliged to rise every hour during the night for micturition was enabled to sleep all night without disturbance; encysted renal calculus; vaginismus; subacute sciatica; dysentery and irritable rectum, etc. In order for the suppositories to have effect, they must be prepared carefully and accurately. The excipient preferred by himself is glycerine jelly. But where the suppositories are to be kept for a considerable time he used oleum theobroma. This last keeps fresh for a very long time and does not grease. It is often adulterated with wax, which renders the medicines contained in the suppository inefficacious. The fact, however, that the suppository is found in the dejections undissolved, provided it has been made of cocoa butter, does not mean that it has not yielded up its contained medicine, as, since it is a vegetable fat, it is able to do this without being dissolved. His own experience had shown him the truth of this. The size of the suppositories he uses is fifteen grains. The question arises whether medicine administered per rectum in capsules would not be better. He is rather inclined to favor them, as there are manifest advantages in favor of the capsule, such as cheapness, accuracy, and the exclusion of air from the drug. He generally gives the medicine once in six hours. He prefers morphia to opium and the watery extract of belladonna to the alcoholic, the usual dose being one-fourth to one-sixth of a grain of morphia and one-half of a grain of belladonna.

Dr. William Brinton read a paper on

THE GERM THEORY OF DISEASE,

in which he discussed the question in regard to cholera, syphilis, and other diseases. He said that there seemed some likelihood that Virchow's sarcastic remark, *Es gibt nichts als Pilsen in die Pathologie*, would soon become established as the real belief of the profession. He entered into the experiments of Koch and others, and passed in review the investigations that have been undertaken to establish or disprove the germ theories of the various diseases. The conclusion arrived at by the reporter was that though there is a great deal going to support the theories in question, and though the theory is not only a convenient but apparently a logical one, it must still be held as a matter of doubt whether it has been established.

Dr. F. Donaldson, Sr., read a paper on

THE USE OF THE MURIATE OF COCAINE IN DISEASES OF NOSE AND THROAT.

He claimed that laryngologists were the first to use cocaine as a local anæsthetic. He himself has been using it since it was first brought to the notice of the profession last autumn. He has been using it almost daily as a local anæsthetic. He has found it anæsthetizes the nasal tissue in all painful operations on them and on the throat. He has used it also in rhinitis with satisfactory results. It enables the rhinoscopist to examine the posterior nares, and its application so contracts the nasal tissue as to enable the observer to examine with ease the deeper tissues of the nose from the front, and to locate morbid growths with greater accuracy. He regards it also as a valuable hæmostatic. He employs it generally in strength varying from two to six per cent.

Dr. John N. Mackenzie and Dr. R. H. Thomas in the main expressed similar views, the former denying its hæmostatic properties.

Friday, May 15th.—Fourth Day.

Dr. W. C. Van Bibber, Chairman of the Section on Sanitary Science and Hygiene, presented a report in which he considered

THE TONIC EFFECTS OF TRAVEL.

Tone in its primary signification is tension, and tension primarily means strength, hence its application to the natural healthy state of the animal organs. It, therefore, means in medicine that strength and activity of the organs from which proceeds healthy function. Travel is supposed to benefit chiefly from change of air. Its real benefit is, in fact, from the entire change to both mind and body which the present quick mode of travel allows. This rapid change is altogether modern. In 1845 it took thirty-eight to forty days to go to New Orleans from Baltimore. Now it is made in as many hours. It is possible in the winter time to leave the snows in Baltimore and Washington and be eating oranges in Florida in twenty-six hours. The question arises, Is the sudden change as desirable as a more slow transition? For the *real* invalid the slower mode is the preferable, but there are conditions where the excitement caused by the rapid change of scene is of great benefit. The same question can be asked in regard to the transition from warm to cool atmospheres, as in the case of children in summer. Whether the change be sudden or not must depend upon the individual case. There are times when from weakness, etc., the patient cannot stand rapid travelling. The great advantages of this change are seen in numerous instances every summer.

Dr. Geo. H. Rohé read a paper entitled

THE NON-NECESSITY OF ANY RADICAL CHANGE IN THE PRESENT SYSTEM OF DISPOSAL OF THE DEAD.

Incineration has been proposed as a remedy for certain admitted evils connected with interment. Is cremation really unobjectionable? It is said that decaying bodies pollute the soil and contaminate the ground water and ground air, and that hence we have unhygienic conditions and positive disease. There is, however, very little trustworthy evidence for this; the examples brought forward are not conclusive. Smolensky found that the percentage of carbon dioxide in the ground air is less than half of that found in the soil used for deposit of offal. Note the generally observed good health of workmen in cemeteries, and note their own testimony to this. Experiments show that microörganisms are not moved by air currents if attached to a moist surface. Hence, the difficulty of conveying germs from a decaying cadaver. Water from wells near cemeteries as a rule is of equal purity to that obtained from places inhabited by human beings and where the soil is more or less polluted. Note the absence of special tendency to disease in those who constantly drink such water. There are no trustworthy observations on record to justify us in saying that infectious diseases may be communicated through the air, water, or soil, polluted by corpses of those dead with the disease. Most of the observations leading to such a conclusion lack accuracy and are, therefore, unreliable. He was prepared to maintain that the greatest violence of the yellow fever epidemic in Savannah, in 1876, in Memphis and New Orleans, in 1878 and '79, was not in the vicinity of the cemeteries. People say it would be more economical to cremate; this is absurd, the cost is what people chose to make it. The cost of reaching the cemetery is an incidental item and cannot be included in the total. A brief calculation shows the fallacy of the plea that in epidemics burning is a more rapid and effectual way of disposing of the dead than burial. The average number of deaths in Baltimore daily is less than 23; for this four cremation furnaces would be needed. Suppose an epidemic of cholera and a death rate of 100 per diem, would it be possible to reduce all these bodies to ashes in the four furnaces? Would a community sink funds to prepare for such a contingency when they might or might not be used? The supposed advantages of cremation in time of war were disproved at Sedan.

The objections to cremation are: (1) In cases of criminal poisoning cremation would destroy all evidence of crime. (2) The overwhelming majority of people cling to old customs and are shocked at cremation. There may be poetry in the funeral pyre, but not much in a furnace blast fired up like the blast in a foundry.

After summing up the above points, Dr. Rohé said he did not intend to seem to approve of violations of sanitary laws so frequently met in cemeteries. They should be kept strictly under supervision, guided by a proper code of sanitary regulations, and all infractions of these should be promptly punished. Intramural cemeteries are objectionable, but when bodies are buried in suitable soil, their decay goes on rapidly and without giving rise to offensive emanations.

Dr. John Morris said that Dr. Rohé's views were not new. The same kind of objections were urged against all new improvements. He was surprised that Dr. Rohé should have been so dogmatic, especially as Dr. Formento at the Public Health Association had so abundantly refuted Dr. Rohé's statement that there was no evidence that graveyards favored the spread of epidemics. Again, the testimony of workmen to the healthfulness of their trade is worthless. Those who work in the most disgusting trades will testify they are healthful. He spoke of a recent analysis of water in the vicinity of Greenmount Cemetery, which showed it to be loaded with nitrates. The expense is a secondary question. We want to have the hygienic needs met. Cremation is certainly the method in epidemics. He spoke of the blistering corpses he had seen, years ago, in Norfolk, Va., during a yellow-fever epidemic. Cremation was found to be a necessity in the Franco-Prussian war.

Dr. Jas. Carey Thomas read a paper on the importance of the

STUDY OF HYGIENE IN MEDICAL SCHOOLS.

Preventive medicine is now taking the place it occupied in the older civilizations—in the formost ranks of medical inquiry. A tablet of old was raised, dedicated to Æsculapius and Health. We now reverse the motto, and read, "*Sanitate et Æsculapis.*" It is of the greatest importance that physicians should be able to advise district and municipal authorities on matters of public health as well as to study the constitution, habits, and surroundings of the families and individuals committed to their care, so as to prevent such sickness as is preventable. He instanced the epidemic at Plymouth as the example of the result of neglecting sanitary precautions. A movement is on foot to introduce physiological and hygienic study in the public schools, and it is important that physicians should be able to keep in advance of the growing public intelligence on the subject. The schedule of the Illinois State Board of Health requires hygiene as among the "minimum requirements of a medical college to be held in good standing."

Dr. Joseph T. Smith, in discussing this paper, said that it and Dr. Rohé's paper on cremation went together. As soon as public opinion is educated to look at these questions from a rational point of view, the main objections to cremation will cease. The fact that the germs of disease show such wonderful vitality lends much support to the theory that one cause of the virulence of epidemics is partly, at least, caused by the custom of burial.

Dr. J. S. Conrad. Chairman of the Section on Psychology reported. He spoke of the alarming increase

IN INSANITY

in this country, and entered rather minutely into the statistics of Mr. Wines on this subject in the census for 1880. The increase appears to be going on, and everywhere there is a call for increased accommodations for the insane. What is to be done with the present rapidly accumulating number of the insane, is a question which demands our attention. Legislation in New York has provided for the separation of acute from chronic cases. Owing to the rapid accumulation of chronic cases this law has been only partly carried out. The objection to the association of the two classes is that the duties of the officers and attendants is so taxed by the chronic patients that they have not the proper amount of time

in which to attend to the acute cases. The subordinate staff of an insane asylum are taxed beyond endurance, hence neglect on their part, naturally resulting from the present system. Let the acute be separated from the chronic cases. This is the remedy. Let these receive the kind of care they need. Let cheaper accommodation be provided for the chronic cases, who need chiefly custodial supervision. Let there be one or more State hospitals for acute cases exclusively. The pressure at present upon the superintendents is such that they have to leave the treatment largely in the hands of untrained young men—the assistants. These, as well as nurses, are likewise selected largely by political preferment.

Another difficulty is the almost complete absence of any systematic study of pathology of brain diseases. Only one State hospital (at Utica) has made any provision for this study. Forty thousand patients ought to furnish a large field for observation, yet it is all lost.

Dr. Conrad then continued to consider the status of the medical profession in relation to insanity. He spoke of the fact that the subject is not taught in our schools, and that few had read systematic treatises on the subject. How could you expect such a person to be acquainted with the subject? Yet, though he knows no more than a layman, he will curl his lip at the opinion of such a one in the case of a man suspected of insanity. He does not know the difference between an hallucination in acute mania and in melancholia.

Dr. Conrad then made a supplementary report, which consisted of a reply to Mrs. Packard's remarks in the second day's session. Mrs. Packard's assertion that there were persons unlawfully detained in our asylums, is supported only on her own statement. Dr. Kirkbride, who had treated over 10,000 patients, said that no case of improper confinement had ever come under his notice. In a discussion the unanimous opinion of physicians representing 50,000 patients was the same. It is all right to have post office boxes in asylums, but letters should be inspected by Board of Managers. He adduced many instances of those whom the public and juries considered sane, whose after conduct proved the contrary. The unlimited privilege of correspondence with friends and others is most objectionable, as the patients continually expose themselves, and use obscene language, etc. The proper suppression of correspondence is a protection to the patients themselves. The charge that the sane are kept for years from their friends is made out of whole cloth. Does Mrs. Packard forget the habeas corpus act, and the government of asylums? He read a report of Dr. Earle's (Mass.) showing that in ten years in that asylum the letter box privilege had not brought out one case of unjust treatment.

DR. R. H. THOMAS reminded the Faculty that Mrs. Packard had made no charge against the asylums in Maryland, had not asked for unrestricted powers of correspondence between the insane and their friends, but only that each patient should be allowed to write one letter a week to one person only, without censorship. Dr. Earle's report only showed that good superintendents had nothing to fear. She had said that the arrangement had resulted in the liberation of a number of inmates in Illinois and Maine. The objection to the present system in Maryland is the possession of unrestricted power by the superintendents.

DR. GUNDRY remarked how readily attacks are made on medical schools and hospitals for the insane. To-day both seemed under fire. The last speaker stated that once upon a time in Illinois upon the enactment of a certain law it was discovered that 149 persons were improperly kept as sane persons in an asylum, and that the Committee on Buildings was discharged as unnecessary. His recollections did not agree with these statements. In 1866 or 1867 the law requiring jury trials in every case was enforced, and those cases that had been admitted under a former law were discharged to undergo the required formality. Also that if building asylums had been suspended, it was only for a short time. Since that date two asylums had been opened and one was now being finished at Kankakee, to accommodate 1200 patients. Dr. Gundry thought that while there were some things to criticise in Mrs. Packard's address, he did not care to notice them. It was well to have the attention of the medical profession called to the condition and wants of the insane. Mrs. Packard's proposed law would hardly meet the case, he thought. Better far have the correspondence held sacred between every patient and some designated official person. Such a person visiting the asylum would soon find out whether his correspondence was suppressed. Dr. Gundry had for twenty years been in the habit of sending all letters directed to patients unopened, but not all letters from them. He would offer three suggestions: 1. To secure some plan by which a patient could be placed in a hospital without delay, but with proper safeguards of judicial care and professional opinion. Each case should be registered. 2. Some general agency such as State Board of Charities should have the right to visit them. This general agency should have no power to order changes, but simply to inspect. 3. The medical profession should aid the work by their influence in providing for those not provided for of the insane, and especially for the separation of the idiotic from the insane. The number unprovided for is very great.

DR. J. C. THOMAS agreed in the main with Dr. Gundry. Wherever irresponsible authority exists it should be under some proper control. The common sense of the community demands this. As to Dr. Conrad's charge against the profession, his supplementary report disproved it. What higher testimony to the ability of the profession could be found than the testimony of Dr. Conrad, who had said that there had been no case shown where a person had been unjustly sent to an insane asylum.

DR. R. WINSLOW read a carefully and judicially prepared paper on the advantages and disadvantages of

LAPAROTOMY FOR GUNSHOT AND PERFORATING WOUNDS OF THE ABDOMEN.

He reported a number of cases from his own practice. In none of these had it seemed to him that abdominal section was advisable. The post-mortem appearances in the cases that had died had justified his decision, except in one case, where there was a bare possibility that the patient might have recovered had an exploratory incision been made. The most remarkable case he reported, was that of a woman who lived five days with a gunshot wound perforating the abdominal aorta. He reported cases where, under the conservative plan of treatment, the lives of several patients very seriously

injured by perforating wounds in the abdomen recovered. His conclusions were, that abdominal section is sometimes indicated, but unless it is very clearly, the conservative plan (opium, etc.) should be pursued, as, on the whole, offering the best chances for success. At the same time, he did not at all condemn the practice when it is clearly indicated.

DR. J. N. MACKENZIE made some

OBSERVATIONS ON THE ORIGIN AND CURE OF THE DISEASE CALLED "HAY ASTHMA" (CORYZA VASO-MOTORIA PERIODICA).

Ignorance of intranasal pathology on the part of those investigating the complaint, false theories, and especially the pollen theory, have by drawing attention to less essential conditions, been barriers to therapeutic progress and have contributed to the sufferings of the patient. After criticising the various theories on the subject, Dr. Mackenzie proceeded to show that the disease, hay fever, is no new affection, but has descended through the centuries under the guise of the convulsive asthma and nervous coryza of the older writers and nosologists, and that the so-called idiosyncratic influence in its production may be traced in all probability to the time of Galen. Dr. Mackenzie does not regard the disease as an affection of any particular country or confined to any condition of mankind. According to his conception, the affection commonly known as "hay fever" is simply a grouping together of certain prominent and frequent symptoms of a particular form of nasal inflammation to which he has given the name "rhinitis sympathetica," characterized by a peculiar excitability of the nasal cavernous tissue possibly linked to an exalted state of the nerve-centres (see abstract in *Md. Med. Journ.*, April 11, 1885, also on pathology of the affection, *Trans. Amer. Laryngol. Assoc.*, 1884, p. 113, *N. Y. Med. Rec.*, July 19, October 18, 1884). For the intelligent treatment of such cases, certain principles should be borne in mind which underlie the etiology and mechanism of the paroxysms. It should be borne in mind that the excitability of the turbinated tissue is a secondary phenomenon dependent, as a rule, upon a direct impression made upon the sensitive nerves of the mucous membrane and upon the terminal filaments of the olfactory; or an indirect influence conveyed or reflected through the vaso-motor centres from a distant organ, or finally from some excitation starting in the centres themselves. This stimulation of the nerve-centres from whatever cause originating is reflected outward probably through the sympathetic filaments which reach the turbinated structures with the sphenopalatine nerves. Now as these nerves are distributed over the posterior and inferior portions of the nasal fossæ (sensitive reflex area), the turgescence of the erectile tissue is most noticeable over this particular area, and it will be found that this surface represents the most sensitive spot to the reflex-producing impression. Destruction of the terminal filaments of the sensitive nerves accomplishes thus one result, it closes one door against *ab extra* irritation of the nerve-centres. In order to exclude completely the influence of the latter, it is necessary in addition to remove all sources of local irritation, from whatsoever cause originating. In this way the production of paroxysms from external agents acting directly on the mucous membranes is prevented. The above means alone are obviously insufficient to protect from paroxysms due to agencies operating within the organism, or from reflected irritation from other parts of the body. The indication here is to remove the cause and diminish or abolish the reflex excitability of the erectile tissue—mark it, not to produce artificial contraction of its muscular elements, whose inevitable result will be permanent weakening and dilatation of the intercellular walls, but so as to alter the nutrition of the nerve-centres that they may not respond so easily to impressions which awaken reflex. Failing in the above methods, the destruction of the cavernous tissue should be undertaken. In the majority of cases it is neither necessary nor advisable to destroy large portions of the cavernous bodies; the amount to be sacrificed depends upon the exigencies of the particular case. Dr. Mackenzie does not usually wait for the interregnum of immunity, but operates between the paroxysms, and by this means has succeeded in preventing their return, when the individual has been exposed to the exciting causes of the paroxysm. He makes a stellate incision with the cautery knife in the tissue to be removed, the advantage of which resides in the resulting cicatrix and the greater patency of the nostril secured therefrom.

The prognosis depends not only upon the special predisposing and exciting causes of the disease, and the facility of their removal, but also upon the amount of structural injury done to the respiratory organs, to the central nervous system, and to the parts of the body subjected to the reflex disturbances, to which the frequency of the paroxysms has led. In general it is good, relief can always be secured, and in a fair proportion of cases a cure may be effected.

Dr. Mackenzie related the case of a clergyman out of whose right sinus pyriformis he had extracted a large pedunculated fibrous growth. The growth was very difficult to reach. He had to make the patient gag, and catch it with a pair of forceps, and then pass a wire snare over the handles of the forceps, and so secure the growth. Muriate of cocaine was used, no pain and hardly any hemorrhage, though not much cocaine was used for fear of hemorrhage into the anæsthetized larynx.

SATURDAY, MAY 16TH.—FIFTH DAY.

DR. CHARLES O'DONOVAN, JR., read a paper reporting five cases of

OVARIOTOMY

that had been performed by Dr. Howard.

This paper related in full five cases of ovariotomy that occurred in the service of Prof. Wm. T. Howard at the Hospital for Women, resulting in four successes and one death; together with a minutely accurate account of Prof. Howard's method of performing ovariotomy and his treatment after the operation. Two of the cases were very interesting. The first was of a girl thirteen years old, in whom menstruation had not yet occurred, from whom were removed a teratoma of each ovary, weighing respectively 7.7 lbs. and 1 lb. 6 oz. These had developed in four months.

The second was a case of cystoma of the right ovary, complicated by cystic degeneration of the left ovary, which had fallen into Douglas's cul-de-sac, and in which had developed an adeno-carcinoma as large as an orange, with carcinomatous infiltration of the pelvic

and abdominal glands. The ureters and pelves of the kidneys were dilated from pressure on the ureters, and the kidney tissue was pale and in an advanced stage of fatty degeneration. This case resulted fatally in seventy-two hours of septic peritonitis.

In the preparation for, the performance of, and the treatment after ovariotomy, Dr. Howard follows very closely the teaching of Keith. He uses carbolic acid solution for his instruments and sponges, and has the spray running throughout the operation, though not directed into the abdomen. He dresses the wound with dry iodoform gauze and absorbent cotton. He attaches great importance to the necessity of stopping all hemorrhage before closing the abdomen. He believes that the best way to control vomiting during anæsthesia is to have the stomach empty. He uses ether exclusively in prolonged operations, though beginning with chloroform.

After ovariotomy when trouble arises he draws favorable or unfavorable conclusions from the pulse rather than from the temperature. The paper relates an instance of reduction of temperature by the India-rubber coil from 104⅕° to 100° in four hours, without retarding the fatal result.

Dr. W. T. Howard, in speaking of this paper, referred to his own experience in ovariotomies. His earlier cases were all successful. The next four all died. In looking back over these, in the light of after experience, he does not think any of them could have been saved except possibly one. The cases just reported by Dr. O'Donovan were brought up because he had heard a report that the ovariotomies at the hospital were mostly fatal. Four out of the five, as it would be seen, had recovered. The fifth was hopeless in any case. After keeping the woman under observation for two weeks, and finding that she had increased by actual measurement two inches, he had operated only as a *dernier ressort*. The carcinomatous infiltration could not have been detected before the operation. The post-mortem revealed advanced Bright's disease of the kidneys. Albuminuria, however, is not of itself a contra-indication for operating, as many recover who have albumen in the urine. The fourth case is interesting as occurring in so young a girl, and having been according to the history of such rapid growth. As dermoid cysts are generally congenital, it is probable that it had existed unnoticed for a long time.

He adopts Keith's rule—never to allow the woman any solid food for some time after the operation. Hot water and a little Scotch whiskey is all that Keith allows. It is Keith's plan never to tie an artery during the operation, he just clamps the bleeding vessels until the operation is done. Neither does he use the spray, but in all other particulars he uses Listerism.

Dr. Joseph T. Smith asked whether the urine was examined in the fatal case before operation.

Dr. W. T. Howard said that in the case in question it was omitted, but it is his custom to examine it.

Drs. John S. Lynch, Branham, and J. T. Smith spoke strongly during the discussion which followed, upon the great importance of examining the urine before any serious operation is performed, as the condition of the patient's kidneys will exercise a most important effect upon the recovery of the patient.

Dr. F. Donaldson, Jr., said that in case of applicants for life insurance, good companies would pass them even if albumen had been found in their urine, provided it was only temporary.

Dr. W. T. Howard said that Bright's disease of itself is no contraindication for ovariotomy. Marion Sims had said to him only the last time but one that he saw him, "If we exclude cases of albuminuria from operation, we exclude many that will recover." It depends something upon the variety of the disease. Contracted granular kidney may last for years. Prof. Elliott, of New York, was strongly criticised for saying that all forms of casts are found in the urine of pregnant women, which disappear after recovery. But years after, he reiterated the statement, and said he had verified it. Prof. Howard had a case of puerperal eclampsia in consultation, where the urine was loaded with albumen. Barnes's dilators were used, delivery without laceration, and the woman recovered. The physical conditions which give rise to albuminuria in pregnancy are present in ovarian tumors, and the highest authorities on the subject unite in not considering it a contraindication. The real reason for examining the urine for albuminuria is not to see whether it be safe or otherwise to perform ovariotomy, but to see whether to use chloroform or ether. If there be albuminuria use chloroform, as ether may probably give rise to suppression of urine.

Dr. Branham read an interesting paper on

THE TREATMENT OF STRICTURE OF THE URETHRA.

He reported a number of cases and showed specimens. He prefers the internal to the external operation. Some of his conclusions were: 1. The nearer the meatus the greater the reflex symptoms. 2. Natural condition may give rise to symptoms. 3. These may exist elsewhere than at the meatus.

Dr. Cristopher Johnson read a paper that had been written by Dr. David Stewart, of Fort Penn, Del., who was absent, on

CARBON AS AN ANTISEPTIC.

Animal charcoal was used and carefully purified and used as a permanent surgical dressing for wounds. This he highly extolled.

Dr. Morris said his old preceptor used a dressing of charcoal and sugar.

Dr. Tiffany said that he had seen the skin tattooed from the use of charcoal dressing.

Dr. J. E. Michael read a paper written by Dr. W. S. Maxwell, of Still Pond, Kent County, Md., on a case of

PERICOLITIS RESULTING FROM PERFORATION OF THE BOWEL

from the presence of a foreign body lodged there. The symptoms were obscure during life, at first simulating typhoid fever. The suffering became localized, and was very intense, though intermittent.

MISCELLANEOUS BUSINESS.

The Faculty then proceeded to the transaction of business, and listened to a number of reports; among the more interesting and important was a report by Dr. George Halstead Boyland on *Potent Drugs*. The Committee recommended the passage of a law forbidding the sale of potent drugs (opium, etc.) without the prescription of a legally qualified physician, under penalty

of fine, the law not to apply to wholesale dealers. The committee was continued.

Dr. George H. Rohé, chairman of a committee appointed last year, reported recommending the profession to appoint a committee to report the most feasible means for the regulation of sanitary matters with a view to urging their passage upon the Legislature, if the Faculty approved of them. The committee was appointed.

Dr. J. S. Conrad, of committee to memorialize the Legislature on the passage of a law for the protection of the insane, reported that they had interviewed the Governor and prominent men, and the prospects for the passage of such a law were good. On motion of Dr. R. Winslow, it was decided to appoint a committee to memorialize the Legislature to pass a law regulating the practice of medicine in Maryland. The amendment to the constitution offered by Dr. J. E. Michael last year, to change the word "gentleman" to "person" in the article relating to applications for membership, was passed. The object of this was explained to be to allow a female practitioner to become a member if she were otherwise suitable.

The Nurses Directory Committee were not satisfied with their showing for the year. They were continued.

The following were elected

OFFICERS FOR THE ENSUING YEAR:

President.—Dr. John R. Quinan.
Vice-Presidents.—Dr. A. H. Bayly, Dr. J. E. Michael.
Secretary.—Dr. G. Lane Taneyhill.
Assistant Secretary.—Dr. Robert T. Wilson.
Reporting Secretary.—Dr. R. H. Thomas.
Treasurer.—Dr. W. F. A. Kemp.

CORRESPONDENCE.

THE PLYMOUTH EPIDEMIC.

To the Editor of The Medical News.

Sir: The importance of the two subjects of the causation of extensive epidemics of typhoid fever, and of the possible contamination of drinking water, is such as to call for much care in drawing conclusions from facts of the kind presented in the interesting paper of Dr. L. H. Taylor on the fever epidemic at Plymouth, Pa., in The Medical News of May 16th.

With much reluctance to appear to be in the minority in regard to such a topic, I beg leave to offer some reasons for hesitating to accept at once the judgment of Dr. Taylor, that the sole cause of the epidemic at Plymouth must have been the entrance into the mountain stream, chiefly supplying the town with water, of excreta from a patient suffering from typhoid fever between the third and fourth reservoirs above the town.

The essential facts are, in brief, these: After a visit in December to Philadelphia, the man returned in January to his house, situated forty feet from the bank of the stream, and there was attacked with typhoid fever. After two months of illness, by March 18th and 19th he was still not well, having hemorrhage from the bowels. His excreta were, during the illness, either thrown from the house to the ground, or emptied into a privy, where they remained on the surface of the ground. There was *no drain from the house to the stream*, and the ground is described as being, at least till the beginning of April, *frozen and covered with snow.*

We are, nevertheless, asked to believe that these excreta, lying for some two or three weeks upon snow and frozen ground, and then possibly washed by April showers into the stream, had enough specific virulence to account, alone, for a sudden outbreak involving more than a thousand cases of fever, with probably more than a hundred deaths. Is not this proving rather too much?

New cases are still occurring, although it is reported that the mountain stream "hydrant" water is now free from contamination. A principal reason given in Dr. Taylor's summary for his prefaced explanation of the epidemic is, that "it is well known that excreta from *one* typhoid patient have frequently poisoned the water supply of a whole neighborhood and caused an epidemic of such fever." What is certainly well known is that foul water, whether contaminated by typhoid excreta or otherwise, is a very frequent promotive, if not alone a sufficient cause, of the prevalence of typhoid fever. But it is also patent, that typhoid fever occurs often *in the absence* of any such cause; and it appears to be straining a point very far, on behalf of the theory of specific infection, to assert such a vitality in the "germs" of typhoid as will persist on frozen ground for weeks together and then develop at a distance so terribly destructive a power.

Along with the facts thus noticed some others ought to be appreciated:

1. Water was pumped from the Susquehanna into the mains from March 20th to March 26th. Though said to be "reasonably pure," the quality of that water may be held to be, not without reason, open to grave suspicion.

2. There are "four successive reservoirs" through which, whether the stream be high or low, its water passes before it is supplied to the town. Its detention in these reservoirs must render it subject to injury in more than one way, which ought to be inquired into.

3. The town is said by Dr. Taylor to have suffered from "accumulated filth," although those living in its cleanest parts have also been among the subjects of the fever.

My purpose in mentioning these several unsanitary conditions is to suggest the view that they may *all* be factors in the causation of this unusually violent and extended epidemic. If the theory of *exclusively specific infection* or contagion be true, its evidence will withstand, and gain in the end by, the most searching examination of all that appears against it. To my view, the facts in the way of its final adoption are many and important; and it is needful for the public, as well as professional, interest, that such a case as that of the Plymouth epidemic should not be decided upon without a thorough, scientific, and what may be called judicial, investigation. With great respect,

Henry Hartshorne.

Philadelphia, May 18, 1885

NEWS ITEMS.

The Cholera Conference at Berlin.—We learn from the *British Medical Journal* that the conference on cholera, which met last August, reassembled in Berlin on Monday, May 4th, to hear the result of recent experiments with the cholera bacilli which have been

made by Dr. Koch since the last meeting. Profs. Virchow, Bergmann, Leyden, Hirsch, Bardeleben, Drs. Skrzeczka, Kersandt, Pistor, Struck, Wolffhügel, Coler, Eulenberg, Fränkel, Gaffky, Neumann, and Schubert, who were present at the last meeting again attended, and in addition Profs. Pettenkofer, of Munich, and Günther, of Dresden, took part in the present meeting. Dr. Koch began by discussing and refuting the views of Finkler, Prior, Klein, and Emmerich. He demonstrated pure cultivations of comma-bacilli from France, Italy, and Germany; all these resembled one another. Of one hundred and fifty medical men who attended Dr. Koch's courses of practical instruction, one got "cholerine," and in his dejecta comma-bacilla were found. The pure cultivations from Germany, mentioned above, were obtained from this case. Dr. Koch considered that the cholera bacilli belonged exclusively to cholera, that they were easily distinguishable from other bacteria, and hence were serviceable as a diagnostic. He then proceeded to describe the successful experiments on guinea-pigs made with pure cultivation. His method of procedure was as follows. Five cubic centimetres (about eighty-five minims) of a five per cent. solution of soda were first administered; twenty minutes later, ten cubic centimetres (nearly three drachms) of meat infusion containing pure cultivations of the cholera bacilli were injected into the stomach. Immediately afterwards tincture of opium was injected into the abdominal cavity, and the animals were thus kept under the influence of the drug for about one hour, and then recovered, for the time, completely. Next day they became ill, and in from one to three days after the operation died. On post-mortem examination, the small intestine and cæcum were seen to be filled with a colorless alkaline flaky liquid, containing almost a pure cultivation of cholera bacilli. These experiments were successfully performed on eighty-five guinea-pigs. In the discussion which followed, Prof. Pettenkofer declared himself unconvinced; cholera, he held, produced conditions favorable to the development of the "comma-bacilli." Dr. Koch, in his reply, pointed out that his experiments had been attended by positive results. He added that the experiments would be continued. The discussion has not yet concluded.

The American Climatological Association will hold its second annual session at the hall of the Academy of Medicine, New York, on May 27th and 28th, under the presidency of Dr. A. L. Loomis. The following papers are announced to be read: "The Climate of Mexico," by H. D. Didama, M.D., of Syracuse; "Antiseptic Inhalations," by Beverly Robinson, M.D., of New York; "Catarrhal Affections of the Nasal Cavities as a Cause of Pulmonary Phthisis," by W. C. Jarvis, M.D., of New York; "The Home Treatment of Consumption," by F. C. Shattuck, M.D., of Boston; "Further Consideration of Pneumatic Differentiation, with Demonstration of the Pneumatic Cabinet," by H. F. Williams, M.D., of Brooklyn; "A Rule for the Even Disposition of Climate, based upon the Average of the Combined Atmospheric Humidities in the United States," by Ch. Dennison, M.D., of Denver, Col.; "Elements of Climate and their Relations to Pulmonary Consumption," by J. H. Tyndale, M.D., of New York; "Geographical Distribution of Phthisis in Michigan, with Sketch of Topography," by E. L. Shurley, M.D., of Detroit; "The Treatment of Laryngeal Tuberculosis," by E. F. Ingalls, M.D., of Chicago; "The Problem of Acclimatization," by J. H. Platt, M.D., of Brooklyn; "Tampa Bay as a Health Resort," by J. C. Wilson, M.D., of Philadelphia; "The Results of the Home Treatment of Consumption Contrasted with those of Changed Residence and Climate," by E. D. Hudson, Jr., M.D., of New York; "Hay Fever and Allied Affections," by F. H. Bosworth, M.D., of New York; "The History of the Stethoscope, with the Presentation of a Modification of the Cammann Stethoscope," by D. M. Cammann, M.D., of New York.

Indiana State Medical Society.—At the annual meeting of this Society held last week the following officers were elected for the ensuing year:

President.—J. S. Gregg, M.D., of Fort Wayne.
Vice-President.—W. J. Hurt, M.D., of Waynetown.
Secretary.—E. S. Elder, M.D., of Indianapolis.
Assistant Secretary.—W. H. Lopp, M.D., of Columbus.
Treasurer.—G. W. H. Kemper, of Muncie.

Pennsylvania State Medical Society will hold its annual meeting this year at Scranton, on Wednesday next.

Public Opinion on the Action of the Association on the Organization of the International Medical Congress.—Instead of tendering the Committee a vote of thanks, through Dr. Billings, the Association was, we will not say led, but stampeded into taking the extraordinary action recorded in the report of the proceedings of appointing a new Committee, consisting of one member from each State, to revise the work of the first Committee, on the absurd ground that the appointment of officers had not been governed by the principle of sectional and local representation. The principle in itself is a poor one applied to this subject; and, moreover, an examination of the list of names shows that all sections of the country are very fairly and worthily represented. It is surely more important that a man should be known to be familiar with the subject he is to direct than that he should come from any particular State, county, or city.

The lists of names of officers as now made out are good ones, and cannot easily be improved. The "ins" could be made "outs" and the "outs" "ins;" but that change, with very few exceptions, would only be an improvement to the extent of gratifying some disappointed aspirations for personal notoriety. One thing, however, can certainly be accomplished by the appointment of this new Committee of thirty-eight, namely, a serious delay of the preparations for making the Congress a success, and an infusion of doubt into the minds of the profession in Europe and Great Britain as to the wisdom of coming so far with such uncertainties.

It is reported that this Committee proposes to meet next September, probably in Cincinnati. It may be by that time they will be convinced of the propriety of passing a vote of thanks to the original Committee and adjourning, but even then sufficient mischief to the scheme of the Congress will have been done by the action of the American Medical Association at New Orleans.—*Boston Medical and Surgical Journal.*

We think that the American Medical Association has by this action stultified itself, and has betrayed an inherent weakness in its present plan of organization.—*Philadelphia Medical Times.*

The brethren of the Atlantic coast are unquestionably able to acquit themselves with credit in exalted positions, but there are those in the interocean regions who deem themselves equally competent, and their right to a chance to display their competency cannot be violated with impunity. This is, practically, what the Association said, and steps were taken to redress the wrong which had been done.—*The Medical Age* (Detroit).

LUSK'S OBSTETRICS.—We are pleased to learn that the last American edition of Prof. Lusk's work on Obstetrics and Diseases of Women and Children has been translated into French by Dr. Doleris, with a preface by Prof. Pajot.

PRIZE AWARDED.—A cablegram announces that the French Academy of Medicine has awarded a prize to Dr. Murrell, of Westminster Hospital, London, for his discovery that nitro-glycerine is a remedy for angina pectoris.

DR. ROBERT KOCH has been gazetted as Professor of Hygiene in the University of Berlin, and has been appointed "Geheimer Medicinalrath."

THE DEATH OF PROFESSOR PANUM.—We regret to have to record the sudden death, on May 3d, of Dr. P. A. Panum, the eminent Professor of Physiology in the University of Copenhagen, and the President of the last International Medical Congress. Professor Panum's work was largely in the field of medical and physiological science, and in his death the profession sustains a severe loss.

DR. FERRÁN.—The Madrid correspondent of a daily paper gives the following particulars of Dr. Ferrán, whose astounding researches on cholera have been received with such enthusiasm in Spain and with so much suspicion elsewhere: "Dr. Jaime Ferrán is only 33 years of age, and after passing through the customary curriculum at the Institutes of Tortosa and Tarragona, took his M.D. degree at Barcelona. He has been in practice at Tortosa for several years, and is already well-known for his work on micro-telephony in 1878, and for his curious investigations on micro-biology and parasites, which were rewarded by the Royal Academy of Medicine in Madrid. Dr. Ferrán was sent to Toulon and Marseilles during the last epidemic of 1884, and he spent several months with German, French, and Italian surgeons, studying the epidemic, and especially Dr. Koch's comma-bacillus. Those studies impelled Dr. Ferrán to pursue his investigation, on his return to his own country, and he thus came to the conclusion that Dr. Koch had only observed one of the many stages of this microbe's successive developments. Senor Ferrán has discovered that, by submitting the comma-bacillus to certain chemical elements very similar to the bile of animals and to the gastric juice of the human stomach this microbe passes through successive and invariable stages of development, in one of which he has detected the eggs, which are, in his opinion, the real generators and propagators of cholera."

OBITUARY RECORD.—Died in Stewart, Lee Co., Ill., May 10th, of mesenteric tuberculosis, WILLIAM SLADE HERRICK, M.D. Dr. Herrick was born in West Randolph, Vt., on May 3, 1838, and graduated in Arts at Dartmouth College in 1860, and in medicine at Rush Medical College, of Chicago, in 1866. He studied medicine under Dr. E. P. Cook, of Mendota, Ill., and served as surgeon-steward on the United States Gunboat Gen. Bragg, of the Mississippi squadron for two years during the civil war. He was a brother of Dr. S. S. Herrick, of New Orleans, Secretary of the Louisiana Board of Health.

NOTES AND QUERIES.

PUMP-WELLS IN BROOKLYN.

To the Editor of THE MEDICAL NEWS.

SIR: In your issue of to-day, you say that one hundred pump-wells still exist in this city; please correct this, as all these have been filled; there remains but *one well* in Brooklyn, and that furnishes pure water. This city is supplied entirely with Ridgewood water which, as you will see by the report of July 20, 1881, of the analysis of Prof. Leeds, of Stevens Institute, stands A No. 1.

Respectfully,
J. H. RAYMOND, Commissioner,
Department of Health.

BROOKLYN, N. Y., May 16, 1885.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MAY 12 TO MAY 18, 1885.

VOLLUM, EDWARD P., *Lieutenant-Colonel and Surgeon.*—Granted leave of absence for three months, to take effect when his services can be spared by his Department Commander.—*S. O. 110, A. G. O.*, May 14, 1885.

A Board of Medical Officers, to consist of A. K. SMITH, *Lieutenant-Colonel and Surgeon*, J. C. G. HAPPERSETT, *Major and Surgeon*, JAMES P. KIMBALL, *Captain and Assistant Surgeon*, appointed to assemble at the United States Military Academy, West Point, New York, on June 1, 1885, to examine into the physical qualifications of the members of the graduating class and the candidates for admission to the Academy.—*S. O. 106, A. G. O.*, May 9, 1885.

CORSON, JOSEPH K., *Captain and Assistant Surgeon.*—Leave of absence extended ten days.—*S. O. 109, A. G. O.*, May 13, 1885f

KANE, JOHN J., *Captain and Assistant Surgeon.*—Leave o, absence for seven days extended one month.—*S. O. 109, A. G. O.*, May 13, 1885.

CARTER, E. C., *First Lieutenant and Assistant Surgeon.*—Leave of absence extended one month.—*S. O. 106, A. G. O.*, May 9, 1885.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE WEEK ENDING MAY 16, 1885.

FESSENDEN, C. S. D., *Surgeon.*—Granted leave of absence for thirty days, May 12, 1885.

GOLDSBOROUGH, C. B., *Passed Assi tant Surgeon.*—To proceed to Moss Point, Miss., for special duty, May 16, 1885.

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the NEWS *should be addressed to No. 1004 Walnut Street, Philadelphia.*

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. XLVI. SATURDAY, MAY 30, 1885. NO. 22.

ORIGINAL ARTICLES.

DISINFECTANTS.

PRELIMINARY REPORTS OF THE COMMITTEE ON DISINFECTANTS OF THE AMERICAN PUBLIC HEALTH ASSOCIATION.

X.

HYDROGEN PEROXIDE.

BY GEORGE M. STERNBERG, M.D.,

SURGEON U. S. A.

SINCE Angus Smith, in 1869, proclaimed his belief that peroxide of hydrogen was to be the disinfectant of the future, sanitarians have been waiting for chemists to devise some method by which this agent may be manufactured at a sufficiently low price to bring it into general use. The absence of any corrosive or poisonous properties or of any objectionable odor, and the promptness with which this agent destroys volatile putrefactive products and arrests putrefactive decomposition, seemed to make it the disinfectant *par excellence*. But we no longer accept the arrest of putrefactive decomposition or the destruction of bad odors as evidence of disinfecting power, and the question which here concerns us relates to the power of this agent to destroy germs.

The following experiments have been made by Dr. Duggan and myself, with a solution of hydrogen peroxide prepared under the direction of Prof. Albert R. Leeds, a member of the Committee on Disinfectants. When first received from Dr. Leeds, this solution contained 4.8 per cent. of H_2O_2 and 5 per cent. of sulphuric acid. At the expiration of a month the amount of hydrogen peroxide was again estimated by Dr. Duggan, and was found to be 3.98 per cent. Five weeks later the proportion was reduced to 2.4 per cent. The constant escape of oxygen at the temperature of the laboratory is shown by a continuous flow of minute bubbles from the interior of the liquid to its surface. Tested upon broken-down beef-tea, when the proportion of H_2O_2 was 3.98 per cent. (say 4 per cent.), the solution was found to be active in the proportion of 30 per cent., while it failed in the proportion of 20 per cent.; that is to say, 1.2 per cent. of H_2O_2 in two hours time destroyed all of the organisms present in the broken-down beef stock, and 0.8 per cent. failed to do so. Tested upon a pure culture of *B. anthracis* containing spores, the same solution was effective in 20 per cent. (0.8 per cent. $H_2O_2 = 1 : 125$) and failed in ten per cent. Tested upon a pure culture of a micrococcus, obtained from a drop of blood drawn from the inflamed area in a case of vaccinal erysipelas, the same solution was effective in the proportion of 10 per cent. (0.4 per cent. of $H_2O_2 = 1 : 250$), and failed at 5 per cent. In experiments made at a later date (March 28th) when the strength of the solution was reduced to 2.4 per cent. *Micrococcus tetragenus* was destroyed by 10 per cent. (0.24 per cent. $H_2O_2 = 1 : 400$), while the same amount failed to destroy the vitality of the micrococcus of pus—pure culture obtained from an acute abscess—showing a difference in the resisting power of these two organisms.

As the solution used in these experiments contained five per cent. of sulphuric acid, which in a previous series of experiments[1] has been shown by the writer to be fatal to the micrococcus of pus in the proportion of 1 : 200, it is evident that a failure to destroy the vitality of the same micrococcus in 1 : 400 does not give this solution any very notable advantage over a simple aqueous solution of sulphuric acid. The germicide power of the solution used, as tested by its action upon spores, is, however, considerably above that of sulphuric acid alone. Dr. Duggan has ascertained that to destroy all of the organisms in broken-down beef-tea requires 8 per cent. of H_2SO_4, whereas 30 per cent. of our solution of H_2O_2, containing 5 per cent. of sulphuric acid ($= 1.5$ per cent. of H_2SO_4), is effective.

These experiments indicate that unless chemists can furnish us solutions which are more concentrated and which will keep better, we are not likely to derive any great practical benefit from the use of hydrogen peroxide as a disinfectant.

As an antiseptic our solution was found, by Dr. Duggan, to be effective in the proportion of 1 : 5000 (of H_2O_2, not of the dilute solution), and to fail in the proportion of 1 : 10,000. This does not correspond with the results reported by Miquel, who places hydrogen peroxide — *eau oxygénée* — above mercuric chloride as an antiseptic. In his table of the minimum amount of different antiseptic agents which will prevent the putrefaction of one litre of neutralized beef-tea the quantity of H_2O_2 required is stated to be 0.05 gramme ($= 1 : 20,000$), while the amount of mercuric chloride required to accomplish the same results is given as 0 07 gramme ($= 1 : 14,285$.)

SIMPLE FORMS OF APPARATUS FOR ESTIMATING THE QUANTITY OF UREA IN THE URINE.[2]

BY AUSTIN FLINT, JR., M.D., LL.D.

AT the request of Dr. William H. Greene, of Philadelphia, I have the honor to exhibit to the Association his apparatus for the estimation of urea. The request is contained in the following letter from Dr. Greene, and the description of the apparatus was sent to me by Dr. Greene, with the apparatus itself:

I see that you have favorably noticed a ureometer exhibited by young Dr. Doremus to the New York

[1] American Journal of the Medical Sciences, April, 1883.

[2] Read before the New York County Medical Association, May 18, 1885.

County Medical Society on the 16th March. As you may possibly have noticed in a reclamation of priority, which I published in THE MEDICAL NEWS of the 4th inst., I consider that Dr. Doremus has acted either ignorantly or with but a slight appreciation of the ethics of scientific men in seeking to appropriate credit for an apparatus of which the only simplicity—the absence of stopcocks—is due to myself. At the same time he does not appear to comprehend the importance of corrections for temperature and pressure even in approximate measurement of gases.

I send you by express a ureometer, which please accept with my compliments, and compare with that of Dr. Doremus.

I have made no advertisement of the instrument. My deceased friend, the late Adolph Wurtz, of Paris, presented for me its description to the Académie des Sciences. Greiner and Friedrichs began manufacturing it immediately afterwards, and, at my request, sent me seven. This one, which I send you, is the third that I have presented, the other two having been given to personal friends.

I would esteem it a favor if you would either read this note or exhibit the apparatus to the New York County Medical Society.

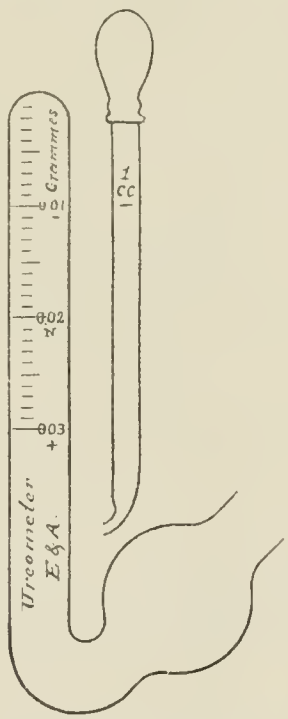
Very respectfully yours,
WM. H. GREENE.

3225 SANSOM STREET, PHILADELPHIA, April 18, 1885.

"A SIMPLE APPARATUS FOR ESTIMATING UREA. By W. H. GREENE. (Fresenius, *Zeitschrift für Analyt. Chemie*, xxiii. Heft ii. S. 275.)

"A simple apparatus for estimating urea with sodium hypobromite, which has been suggested by W. H. Greene, is intended for clinical purposes, and admits of rapid work. Its essential part is the glass vessel *a* (see Fig. 1), whose under portion, holding about 60 cc., has

FIG. 1.



a side-tube, while the upper cylindrical portion, of from 20–25 cc. capacity, is graduated.

"To make the determination, a measured quantity of urine is introduced by means of the pipette, whose end has been bent, into the glass vessel, which has been filled with hypobromite and placed in a saucer to catch the ley that escapes.

"The nitrogen produced collects in the graduated cylinder. It is advisable to choose a pipette whose fine end allows 3–4 cc. of urine to escape in a minute.

"When the decomposition is complete, a bent funnel-tube is inserted in the tubulus, and this is filled with hypobromite to the same level as that in the graduate. The reading of the volume of nitrogen is then made. If it is desired to do away with the funnel-tube, the entire apparatus may be sunk in water until the level of the hypobromite corresponds with that of the outside water.

"Quantity of urea in a litre of urine =

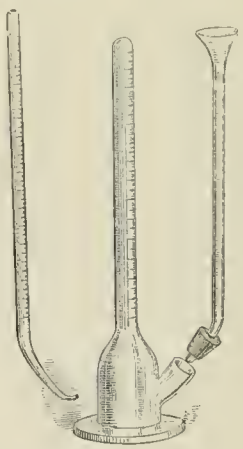
$$\frac{1000\, v\, (h - h')}{760 \times 354.3 \times a\, (1 + 0.00366\, t)}$$

"v = volume of gas.
"h = barometric pressure in millimetres.
"h' = tension of aqueous vapor in millimetres at temperature t.
"a = volume of urine employed."

To enable members of the Association who were not present when the apparatus constructed by Dr. Doremus was presented, to make a comparison between the two methods, I take the liberty of exhibiting again Dr. Doremus's process. It is proper, however, to state that Dr. Doremus makes no claim to originality, as is shown by the following extract from the *Journal of the American Chemical Society*, vol. vii., No. 3:

"The general form of the apparatus shown in the cut (Fig. 2) is not new. It was in use in Prof. Kuehne's

FIG 2.



laboratory in Heidelberg in 1871, where it was employed in the detection of fermentable sugars by introducing some yeast in the liquid, and setting the tube in a warm place. The carbon dioxide evolved collected in the long arm.

"Since then it has been given in works on animal chemistry."

The long arm of the tube is filled to a point marked = with a solution of sodium hydrate, six ounces to a pint of water, and one cc. of bromine is then added by means of the pipette. This extemporaneous mixture, for each analysis, is made in the apparatus itself, for the reason that the hypobromite is liable to deteriorate. Enough water is then added

to fill the long arm and bend of the ureometer. One cc. of urine is then passed slowly into the apparatus by means of the pipette, and the quantity of gas liberated is read from the scale, which gives the actual proportion of urea, without calculations or the use of tables. The determination can thus be made in nearly the time that has been required for its description.

Each of the two forms of apparatus is designed to present a convenient and rapid application of a well-known method for the quantitative determination of urea. There seems to be no ground for controversy as regards originality or priority; and practitioners will undoubtedly select the apparatus which is most convenient.

Dr. Doremus presented, by request, at a previous meeting of the Association, the form of apparatus which he uses in teaching, as possibly the simplest and most convenient for medical use. The graduation was made experimentally, at a temperature of 65° Fahr., with a uniform volume of liquid, so that, these simple conditions being fulfilled, the estimates are sufficiently close for all practical purposes, and "corrections for temperature and pressure" are unnecessary.

The advantages of Dr. Doremus's apparatus over the one proposed by Dr. Greene seem to me to be the following:

1. The apparatus has but two parts, which are easily filled and cleaned.

2. The mixture of the sodium hydrate with the bromine is made in the tube, and the irritating fumes of bromine are avoided.

3. The bulb receives the excess of liquid when the urine is added, and no additional receptacle is needed.

4. The pipette is more easily filled by means of the rubber nipple than by suction with the mouth.

5. The determination is made directly, by simply reading from the graduation, and no calculation is necessary.

In neither of the two forms of apparatus is there any new principle involved, and they are to be compared merely from the point of view of simplicity and convenience of application.

The strictures made by Dr. Greene, accusing Dr. Doremus of having "acted either ignorantly or with but a slight appreciation of the ethics of scientific men," seem to me to be uncalled for. The advantages of both instruments commend themselves on their simple merits to practitioners, who will, of course, select the one which seems the better adapted to their use. This question I leave to the members of the Association for their decision individually. For myself, I had seen a description of Dr. Greene's apparatus before I made my remarks at a previous meeting; and I simply commended what I conceived to be improvements on all previously described forms of apparatus, without comparing any one form with another.

A CASE OF MIXED-CELLED SARCOMA OF THE SPINE,

OCCURRING IN THE PRACTICE OF DR. WM. PIERSON, OF ORANGE, N. J.[1]

Reported by J. W. STICKLER, M.D., OF ORANGE, N. J.

W. S. H., æt. 30, American, married; no children; temperate; no suspicion of specific disease. With the exception of his last illness, was never seriously sick. Family history good.

Nine months ago the patient complained of pain in his back, especially when he walked, or in any way used his lumbar muscles. It was thought at that time that he had lumbago and was treated accordingly. He absented himself from business for a few weeks to secure rest, and then resumed work, but daily, after returning from the city, he experienced pain in the lumbar region, and found it necessary to give his back as much rest as possible.

On October 28, 1884, Dr. Wm. Pierson first saw the patient. At that time he complained of very severe pain which followed first the course of one sciatic nerve, then of the other, the pain lasting two weeks, seven days in each thigh.

During this period the patient remained in bed. A very careful examination was made, but there could be discovered no tenderness on palpation at *any* point, neither was there deformity of the spine. Locomotion was not interfered with at that date, although muscular action caused slight pain. At the termination of two weeks he was relieved of pain, but discovered that he could not use his lower extremities. The anal sphincter was paralyzed, the vesical remained intact. The motor paralysis was associated with anæsthesia of the skin below the first lumbar vertebra. An examination of the spine at that date did not elicit any pain or tenderness, or show any deformity. One month later the vesical sphincter became paralyzed, the urine ammoniacal, and showed on examination mucus and pus. His appetite remained good, and digestion did not seem to be materially impaired.

About December 15th a tumor, similar in outline to a circular cyphosis, was observed in the lumbar region. It extended from the last dorsal to the second lumbar vertebra, and was *not angular* as in caries. On either side the spine, the tumor was smooth upon its surface, and gave on palpation an ill-defined sense of fluctuation. The needle of an ordinary hypodermic syringe was inserted into both sides of the tumor, but nothing but blood was drawn, as was shown to be the case when the fluid was examined microscopically.

The tumor increased in size laterally, and after a lapse of two weeks the exploratory needle was again inserted. A small quantity of colorless fluid was withdrawn which upon microscopic examination showed a few disintegrated cells, a few blood disks, and oil globules, *but no pus cells*. At that time Dr. Pierson made a diagnosis of "malignant growth." His opinion was based upon absence of pain, angular curvature, pus, and such constitutional symptoms as

[1] Read before the Orange Mountain Medical Society.

are associated with suppuration, also upon the probability that the paralysis which occurred early, was due to pressure of a new growth upon the cord. He likewise thought that the posterior even curvature of the affected portion of the spine was due to an expansion of the vertebræ occasioned by growth of the tumor. The bilateral bulging, he thought, was due to an extension of the growth on either side the spine.

It was the opinion of a few of the many physicians who were kindly asked to see the patient, that the case was one of "spinal caries." The diagnosis made by Dr. Pierson was verified at the post-mortem examination. Emaciation, which began with the appearance of the tumor, had become extreme, notwithstanding the patient ate largely of various kinds of food.

About the middle of January, a tumor was detected in the abdomen, on the left side, directly in front of the tumor behind, and apparently continuous with it. Palpation of this tumor did not occasion pain, neither did it elicit any fluctuation, nor give any information concerning its character, save that it seemed to be, when very carefully examined, a part of the growth behind. During February the patient became greatly exhausted and emaciated, the tumor increased rapidly in size, the vital forces giving away degree by degree until March 8, 1885, when he quietly died.

It will be well to state just here, that during the entire course of his sickness he ate with good relish, and slept well. It is also a noticeable fact that he was not given a single dose of any anodyne medicine, there being scarcely any pain.

Post-mortem Examination.—Rigor mortis well marked; emaciation extreme; color of skin, pale yellow with here and there a greenish coloration, due to chemical changes. When the abdominal cavity was opened, but little fat was seen in the omenta, and many of the mesenteric glands were enlarged and quite soft. When the intestines were removed, a bi-lobed tumor was seen to occupy about the posterior half of the abdominal cavity, extending from the last dorsal vertebra to the ileo-pectineal line on either side. It had a common covering which in the central line was close to, and at some points in apposition with the vertebræ. This covering, which was tough and tense, bound the growth firmly to the sides of the thoracic cavity, in the axillary lines, and to the linea ileo-pectinea. On the left side, the covering of the tumor was quite adherent to the capsule of the kidney, although it was separable from it by careful manipulation. On the right side the kidney was less adherent. To the touch the tumor was semi-fluctuating, and when accidentally punctured, was found to contain a small quantity of serous-looking fluid. It was found impossible to separate, by dissection, the tumor from its various attachments.

The left ureter was traced from the bladder across the anterior surface of the tumor, between it and the kidney, till it was seen to enter at the hilus. This ureter presented no dilatations. The right ureter was likewise traced from the bladder to the kidney, and at a point about four inches from the bladder was dilated to about three times its normal diameter; it contained clear urine.

The tumor was opened on both sides of the spine, and was found to contain a soft cheesy mass, most consistent near the spine, *very* soft, almost fluid, at the centre of the sac, on either side the spine. In color it was pale yellow. When the covering which lay over the spine was removed, it was found that the last dorsal and first lumbar vertebræ were so disorganized, and so completely detached from all ligamentuous connection, that they were easily removed. The body of the last dorsal vertebra was almost entirely destroyed, and about two-thirds that of the first lumbar was gone. The interarticular fibro-cartilages were normal in appearance. None of the cord substance could be recognized at the level of the two vertebræ just alluded to.

The left kidney was enormously enlarged (four by six inches), and overlaid the abdominal tumor. Its capsule was glistening in appearance, and was quite tense. It did not fluctuate on palpation. When cut into, the capsule was found to be thickened and infiltrated. In that portion of the kidney near the capsule there were many cheesy-looking masses of various sizes. The kidney consisted chiefly of a pultaceous mass, yellow on its surface, but presenting many red points at and near its centre.

The right kidney was slightly enlarged, and presented pale yellowish markings in the cortical portion. It also contained five small masses in the medullary portion, which had a cheesy appearance, and a chalky consistency. The lungs were normal; the liver paler than in health, otherwise natural in appearance.

Microscopical Examination.—The tumor which was connected with the spine consisted of a great variety of cells, viz., giant cells, spindle-shaped cells, small and large round cells, and stellate cells.

The cortical portion of the left kidney showed an almost entire obliteration of the Malpighian bodies, the tubules and vessels. Instead of the above normal elements, many small spherules could be seen. Some of these spherules were about as large as white blood-globules, others about one-third larger, and some were considerably smaller, about the size of red blood-globules. The pultaceous mass which filled the central cavity of the kidney, consisted almost entirely of spherules, such as have already been referred to. An examination of the right kidney showed a tumefaction of its epithelial elements, a dilatation of the convoluted tubes, and an apparent thickening of their proper tunic. The Malpighian tufts seemed to be much dilated, and had a fatty appearance. Some of the tubules were clogged with swollen epithelium, casts, and oil globules, and all the tubes were in contact. The five small collections of cheesy and cretaceous looking substance consisted of uric acid crystals, phosphate of lime, and spherules such as were found in the left kidney.

Dr. Wm. H. Porter, of New York, to whom I sent a number of sections of the sarcoma, agrees with me concerning the character of the tumor, and thinks "composite sarcoma" a good name for such growths.

MEDICAL PROGRESS.

New Mode of Drainage Employed in Cold Abscess.—Dr. Houzel, at the last meeting of the French Surgical Congress, described a new method of drainage

employed in cold abscess, by which the pus is evacuated as fast as it is secreted, and the dressing of the abscess is not only not soiled, but escapes altogether contact with the pus. The plan is as follows:

The suppurating cavity, no matter what may be its nature, is thoroughly cleansed and rendered aseptic. Two tubes are then introduced into the cavity as deeply as possible—in contact, if the cavity is small, divergent at a point beneath the skin if the suppurating cavity is larger. The calibre of the tubes must depend upon the abundance of suppuration. Before they are introduced, they must be thoroughly fenestrated so far as they are engaged in the suppurating cavity. At the point of exit from the wound the two tubes are united and surrounded with iodoform, and a collar of charpie slightly elevated, in order to form a dressing for the cutaneous wound. Over the whole is placed a dressing of carbolized gauze or antiseptic wadding, and Mackintosh perforated so as to allow the exit of the two tubes, which extend about six or eight inches beyond the dressing, according to circumstances.

The tubes are then introduced carefully into the perforations of a rubber cork, until the cork reaches the level of the dressing, and finally the tubes are introduced into a flat rubber bladder, containing a small quantity of carbolic acid or chloride of zinc.

The two cavities are by this means connected, air is excluded, and pus is voided without soiling the dressing. Profuse suppuration is no longer a source of inconvenience, and asepsis is perfect. The tubes, when once a flow has been established into the rubber vessel, act as siphons and gently aspirate the pus from the cavity of the abscess, which is thus drained much more freely than by the ordinary method, while its immediate admixture with a disinfectant renders antisepsis still more complete and as perfect as possible.

Encephaloid Sarcoma of the Right Ovary; Laparotomy; Death.—Prof. C. Gallozzi, in the *Gazzetta degli Ospitali* (supplement), April 5, 1885, records an operation of laparotomy, performed on a girl 13 years of age, for sarcomatous degeneration of the right ovary.

The history of the case revealed no hereditary tendency to the disease, which first manifested itself two years previously by pain in the right iliac fossa. The condition of the patient was that of general malaise. There was, however, no disturbance of the digestive or respiratory function. The abdomen was enlarged, but there was no marked prominence nor alteration in color or venous engorgement. The circumference of the body at the level of the umbilicus was 31.6 inches.

Palpation revealed the presence of a tumor, ovoidal in form, of uneven surface, and moderately elastic, extending from the left costal arch into the basin of the pelvis, from which it could be raised by light pressure from below upward, though such manipulation was painful to the patient. The tumor had a transverse diameter of eight inches, and a longitudinal diameter of 9.2 inches. Vaginal examination of the uterus was impossible. Diagnosis was made of sarcoma, probably involving the right ovary.

The twenty-second day after the patient's admission to the hospital, operation was performed at the request of her father. Median incision was made, extending from the umbilicus to the symphysis pubis, and on opening the peritoneum a large quantity of serous fluid escaped, tinged slightly with blood. The tumor, which was sarcomatous, was found adherent to the great omentum at numerous points, and had for its point of origin the right ovary. In order to facilitate the operation the incision was enlarged. It now became manifest that, owing to adhesions, the whole tumor could not be removed, except with immediately fatal result, and accordingly the abdomen was closed; portions of the tumor being left in the abdominal cavity in two localities, one the size of a fist on the left of the spinal column, another, somewhat smaller, in the cavity of the pelvis. Antiseptic dressings were applied, and the patient during the following day and night was in a satisfactory condition, with only a slight rise of temperature (99.5° F.), but febrile symptoms were further developed, and death from peritonitis ensued a day later.

Orchitis Produced by Strain; Atrophy of the Testicle.—Dr. Feuillon reports an interesting case of orchitis produced by strain, and followed by atrophy of the testicle.

The patient, a man, aged 45 years, married, healthy, denied ever having had any venereal disease, and that previous to the injury related below, both testicles were normally situated in the scrotum.

Two months previous to his entrance into the hospital, while attempting to lift a bar of iron, he suddenly experienced pain in the left testicle, so severe that he fainted. No direct blow was received, nor, indeed, was there any trace of violence.

The patient affirmed that he then found the testicle drawn up into the left groin. It was very painful, and at the same time affected the corresponding side and abdominal region. Vomiting, obstinate constipation, and swelling, were also experienced for a measurable period. These symptoms finally abated, but the testicle remained fixed and painful in its new position. After three weeks the pain in a great measure disappeared, but at once returned when the patient attempted to rise from his couch. In this condition he came to the hospital. The testicle was found firmly fixed at the external inguinal ring; it was atrophied and reduced to about one-fifth of its normal size. All efforts to release it were ineffectual, and while the least manipulation caused extreme pain, the patient also suffered from all the symptoms of ilio-lumbar neuralgia. This condition having been persistent for three months, castration was decided upon as the only means of relief. The tunica vaginalis was found adherent to the adjoining tissues by fibrous bands, and a portion of the epididymis had disappeared within the inguinal canal.

The operation was concluded without difficulty, and the patient made rapid recovery, being able to walk without difficulty in less than four weeks. Examination of the testicle showed an almost complete destruction of the tubules of the testicle, which were encroached upon by dense peripheral fibrous tissue. The epididymis likewise had completely lost its normal structural peculiarities, and was composed almost entirely of cicatricial tissue.

The possibility of the occurrence of this accident in

the manner related has been questioned, but the present case removes all doubt on the subject. Retraction of the testicles from other causes has been previously noticed by other writers, among whom are Kocher and Lewin, to whose papers the report of M. Feuillon makes an interesting addition.—*Annales des Maladies des Organes Génito-Urinaires*, April, 1884.

LARGE URETHRAL CALCULUS IN A WOMAN PAINLESSLY REMOVED BY INJECTION OF HYDROCHLORATE OF COCAINE.—M. JULES BATUAD, in the *Gazette Médicale de Nantes*, April 9, 1885, reports a case of urethral calculus removed from a woman in whom the operation was rendered entirely painless by the use of hydrochlorate of cocaine. The patient was 67 years of age, and complained of extreme pain and burning on urination, together with the appearance of blood at its completion.

Vaginal examination revealed the presence of an extremely hard tumor situated at the bulb of the urethra, larger and of the shape of an almond. On introducing a catheter it came in contact with a hard body, and urethral calculus was diagnosticated. On account of the age of the patient, the administration of chloroform was considered dangerous, and it was determined to resort to hydrochlorate of cocaine. Previous to the operation the urethra, which was very much contracted, was dilated with Huguier's dilator. On operating, a solution of cocaine, 1 to 10, was then made, and the vulva, anterior portion of the vagina, and the meatus, painted freely. A portion of the solution was then injected into the pocket containing the calculus, with the effect of rendering the parts completely anæsthetic.

The operator, M. Chéron, introduced a curved trocar into the meatus, and passed it through the utero-vaginal septum immediately in front of the calculus. A platinum wire was then introduced and connected with a galvano-cautery brought to a red heat. No pain was experienced by the patient, and in four minutes the stone was extracted without loss of a single drop of blood.

The calculus weighed 310 grains, and was one and two fifth inches in length, about one inch wide and four-fifths of an inch thick.

The wound was washed with boracic solution, and iodoform dressing applied, and kept in position by appropriate bandages. The sphincter of the bladder was intact, and the patient suffered from no complications, urethral fever, or secondary hemorrhage. The case is interesting:

1. On account of the relative infrequency of large urethral calculi in women.

2. Owing to the complete anæsthesia obtained by the application of a 1 to 10 solution of cocaine in an impressionable patient.

3. As illustrating the advantages of the galvano-cautery in such operations, and on account of the complete preservation of the function of the sphincter of the neck of the bladder after its use.

FEMORAL NEURALGIA; RESECTION OF THE ANTERIOR EXTERNAL CUTANEOUS NERVE, RESULTING IN CURE.—DR. W. HAGER reports a case of femoral neuralgia cured by excision of the anterior external cutaneous nerve.

The patient, a young woman with no history of previous nerve affection, received, at a dance five years previously, a blow upon the left hip. The blow—a kick—was so powerful that in attempting to parry it she sprained her right ankle. From this she recovered, but there remained a continual dull pain in the hip, which never abated. Occasionally, after great exertion, the pain assumed a lancinating character. As a result of the constant pain the patient had become pale and emaciated, and complained of sleeplessness. No treatment was in the least beneficial, and though quinine, iron, arsenic, salicylic acid, and hot baths had been tried, no relief was obtained.

Dr. Hager first saw the patient September 13, 1884. Examination revealed extraordinary hyperæsthesia of the external portion of the thigh, especially in the region of the anterior superior spinous process. The least motion was painful, owing to the extreme sensibility of this region. Attempt made to rise from a sitting posture by means of the left leg was futile, resulting only in excessive tremor of the limb, and its falling powerless to the floor. No disease or swelling of the periosteum was recognizable, and pressure upon the great nerve trunks caused no unusual pain. At the second examination, made September 29, Dr. Hager discovered a thin cord-like structure in the region above referred to, which, under pressure, was painful in the extreme. The course of this cord corresponding to the anatomical position of the anterior external cutaneous nerve convinced Dr. Hager that the neuralgia had its origin in a diseased condition of the nerve, and he decided upon its resection. The operation was accordingly performed, and two and a half inches of the diseased nerve tissue were removed, and the wound closed with three catgut sutures. The day succeeding the operation there was complete anæsthesia of the region supplied by the nerve, and also of the entire outer third of the thigh as far as the knee. The dull pain, moreover, disappeared, and has not since returned. Careful treatment by rest and massage was instrumental in relieving the remaining symptoms, and the patient declares herself perfectly cured.—*Deutsche medicinsche Wochenschrift*, April 2, 1885.

ERYSIPELAS AND SEPTICÆMIA.—In a discussion upon the nature of erysipelas held at a recent meeting of the French Academy of Medicine, M. HERVIEUX expressed the view, based upon observation and experience, that:

1. Identity evidently exists between erysipelas and septicæmia, whether the latter be puerperal or surgical.

2. That erysipelas being only an expression of septicæmia, may on occasion produce the latter just as septicæmia may produce erysipelas.

2. That erysipelas demands therefore from the surgeon the same remedial measures as are required in septicæmia.

M. Trélat, in discussing the views of M. Hervieux, said that the identity of the two diseases, as yet, is not a recognized scientific fact, and that science has not yet determined the nature of the agent or microbe which produces erysipelas. Whatever may be the differences or analogies which exist between the agents producing erysipelas and septicæmia, the fact remains that erysipelas ordinarily does not pursue the course of septicæmia, but, nevertheless, though the question is still undecided, it is true that all antiseptic precautions are also precautions against erysipelas.—*L'Union Médicale*, April 23, 1885.

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SATURDAY, MAY 30, 1885.

THE TREATMENT OF TUBERCULAR ABSCESS.

AMONG the interesting topics which were discussed at the recent Congress of French Surgeons was that of the management of cold, strumous, or tubercular abscess, an account of which may be found in the weekly medical periodicals of Paris for April. Although there was some difference of opinion as to the best mode of treatment, the discussion disclosed a great advance over the old method of leaving such collections of pus unopened until they were ready to evacuate themselves spontaneously, or of resorting to aspiration. As will be seen, the majority of the speakers were in favor of effecting riddance of the wall of the abscess, or of the so-called pyogenic membrane, and effecting union by the first intention.

Cazin resorts to extirpation of the wall, which is rendered easy by the method practised by Pozzi for the ablation of cysts. The fluid having been evacuated by an aspirator, melted paraffine is injected into the sac, and its solidification promoted by the ether spray. The sac is then readily dissected out, the parts approximated by sutures, and a drain inserted. Bouilly also advises extirpation of the sac.

Pozzi, on the other hand, prefers attacking the wall of the abscess with the spoon, actual cautery, and iodoform, while Socin resorts to incision, scraping, and removal of the greater portion of the sac, with subsequent suture and drainage. Of 25 cases of tubercular abscess connected with caries of the vertebræ, treated in this way, 5 were completely cured, 16 recovered with fistulæ, and 4 were failures, and of 20 connected with disease of the ribs, or sternum, 12 were cured. Of 25 idiopathic cases, 19 were cured, and 6 failed. Bœckel agrees with Socin, and reports 5 cures out of 7 examples of psoas abscess. Access to the sac is secured by an incision from two and a half to three inches long parallel to Poupart's ligament, and a second incision over the femoral prolongation of the sac, and free drainage is obtained by an opening made in the loin.

Houzel favors ablation of the sac, and recommends a special form of drainage, which we think possesses no particular advantage. Verneuil, however, has abandoned extirpation and scraping of the sac in favor of an injection of an ethereal solution of iodoform, which permits the deposit of the remedy, on the evaporation of the ether, in all the recesses of the sac. He states that he has recently successfully treated in this way a cold abscess which contained six pints of pus, and which extended from the knee to the diaphragm.

In the present state of our knowledge we believe that the proper treatment of tubercular abscesses may be summed up as follows: Extirpation of the sac when it is small and the operation is practicable; early, free, and dependent incision, with irrigation with a proper solution of corrosive sublimate, and adequate drainage, in spinal abscesses; or the injection of iodoform dissolved in ether or glycerine, in similar cases, when the patient cannot remain in bed, or when, for other reasons, aseptic incision and drainage are impracticable. In this connection we may recall the fact that the iodoform treatment originated with Mikulicz, and that Verneuil has never done him the justice to give him the credit for it.

A RECENT MALPRACTICE SUIT.

THE beauties of the jury system are well illustrated by a trial recently concluded in Cincinnati; and the fact is once more brought before us that care and skill, and the conscientious performance of even the plainest duties may fail to protect a surgeon when placed at the mercy of "twelve good men and true;"—good enough, perhaps, in the ordinary relations of life and true to their sympathies, but too often utterly incapable of forming a correct judgment on any subject beyond the limited range of their experience.

It would be difficult to imagine a plainer case of practice than the one that was made the basis of a recent suit against Drs. Williams, Ayres, and Sattler, of Cincinnati, and no hospital surgeon passes a day without incurring at least equal risk. The case is briefly as follows: A boy, sixteen years of age, while at work in a machine shop, was struck in the left eye by a piece of iron, and was brought, about an hour afterwards, to the office of these gentlemen for treatment. Intense congestion of the eye had already appeared, there was blood in the anterior chamber, and hemorrhage in the vitreous prevented ophthalmoscopic examination, the iris was tremulous,

and the lens partially dislocated, the ball had lost all tension, and a wound in the sclerotic showed plainly the entrance of the foreign body. The course to be pursued in such a case is too evident for discussion. Supposing it to have been possible to remove the foreign body, so much injury had been inflicted that it would not have been safe to let the eye remain. Even when much less mischief has been done, the attempt to remove foreign bodies from the vitreous may be considered questionable. In a discussion of this subject at the last meeting of the American Ophthalmological Society, Dr. Knapp expressed himself as follows: "It is a very nice thing to attempt their removal, and occasionally we succeed, but, from my own experience and a study of the literature, I have sometimes thought it would be best to take all such eyes out, without any scruple. I am sure that by proceeding in this way, the greatest good would be done to the greatest number." The three surgeons, against whom the suit was brought, examined the eye and advised enucleation, but the boy's parents positively refused to allow it.

After a few weeks of treatment, the patient ceased to attend and commenced a course of migration from one surgeon to another. During a period of more than two years he was under the care, at different times, of four other surgeons, all of whom urged enucleation in vain, until at last it was consented to when too late to save the other eye. The foreign body was found, at some distance from the point of entrance, encapsulated in the ciliary region.

One would have supposed that such a case as this would be too strong for the smartness of any lawyer or the stupidity of any jury, and that no attack could make any impression upon its defences. Nevertheless, there was not only a vigorous and prolonged campaign, but a partial victory. The jury, after deliberating for two days, were unable to agree, but stood eight for the plaintiff and four for the defendant. $20,000 damages were demanded.

The prosecution first charged neglect to remove the eye, but a change of base soon became necessary, and the plea was made of neglect to remove the piece of iron. It was supported by the quotation of a case recorded in Mauthner's work on *Sympathetic Diseases of the Eye*, in which a small piece of iron was removed from the wound in an eye not seriously injured; and by the deposition of an entirely unknown self-styled oculist of New York, who detailed what he would do in a hypothetical case arranged by the lawyers. This, with an eloquent peroration on the poverty of the plaintiff and the wealth of the defendants, did the business for eight of the jurymen.

A new trial will probably take place, and it will be interesting to all who are liable, at any day, to be placed in the position of our Cincinnati *confrères* to watch the result. It is a comfort to remember that even if twelve men can be found to equal the stupidity of the eight in this case, there still remains one possibility to redeem the jury system from hopeless absurdity—a righteous judge may set aside a monstrous verdict. This was the ending of an equally groundless and shameless suit brought against a well-known ophthalmic surgeon of Philadelphia, some years ago; but not until he had endured nearly two years of persecution. Fortunately, such suits, if bravely met, usually in one way or another come to naught; but the loss of time, the interference with work, the expense, the worry and anxiety—who can estimate but those who have been the victims?

PODALIC VERSION—A NEW INDICATION FOR IT.

In the May number of the *Edinburgh Medical Journal*, in an interesting paper upon podalic version, Dr. S. Lawrence reports that, in 500 cases of labor, he resorted to podalic version forty-three times, once for puerperal convulsions, twice in arm presentation, twenty-two times on account of obstruction of the pelvic brim, and eighteen times because of insufficient uterine action threatening tedious labor.

A brief consideration of the results of podalic version in the cases of contracted brim may prove instructive. In nine of the twenty-two, premature labor was induced about the end of the eighth month; all of the children were born alive, and two of the mothers died. In the remaining thirteen cases, labor occurring spontaneously at or about term, there were nine living and four dead children. Now, without having the very great faith in statistics which George Eliot attributed to Mr. Buckle—who looked for the time when superstition would be banished, and statistics reign forever and ever—it seems to us that the facts Dr. Lawrence mentions in relation to version in contracted brim show, so far as they show anything, that this operation is admirable when premature labor is induced, but fails if labor occur at full term; in the former case the delivery can be effected so much sooner—the head being smaller, and more easily moulded — that the probability of the child being born alive is very great. On the other hand, delay in delivery of the head being not rarely a cause of death in pelvic presentation, even when the birth canal is in every respect normal, how much more likely is such an event to occur if the canal be narrowed.

Dr. Lawrence had lost three mothers out of the twenty-two cases of podalic version; that is, the mortality was 1 in 7. Sir James Simpson, who so strongly advocated podalic version in narrowed brim, claimed that the maternal mortality in craniotomy was 1 in 6. It will thus be seen that Dr. Lawrence's statistics are only very slightly better, that podalic version is very little superior to craniotomy; but, when we add the

saving of infant life, the value of the method becomes greatly enhanced. Still, the question is not always between podalic version and craniotomy, for it may be asked, might not the forceps have saved as many lives as podalic version did in these cases?

In the eighteen cases in which podalic version was resorted to because of inefficient uterine action, all the children were born alive, and all the mothers made excellent recoveries. Certainly this showing is excellent, but ought the new departure to be imitated? That podalic version is useful in such cases is proved by Dr. Lawrence's results. But here, as in life generally, the application of a rule or principle to a particular case or condition presents the difficulty. How do we know in a given case that a labor will be tedious, or may become powerless? How often are the prognostications of the obstetrician put at naught, and a labor that has threatened to become lingering, changing its character, rapidly goes on to a favorable termination! It is easily seen that one may needlessly resort to this treatment in some cases.

Further, the plan is liable not only to mistake in application, but also to abuse. Impatient obstetricians, finding how certain a means they have for ending a labor and saving their time, may resort to podalic version unnecessarily, and a needless operation is liable to be an injurious one.

We must believe that this new indication for podalic version ought to be very fully considered in all its aspects before being adopted or, on the other hand, rejected.

THE SANITARY ASPECTS OF CABLE ROADS.

The construction of cable roads by the plan adopted in Philadelphia suggests an inquiry into the possibility of the conduits causing an offensive nuisance by the decomposition of refuse matter collecting in them. The main feature in the construction of these roads is an underground passage-way of iron for carrying a steel cable, by which the cars are to be drawn over the streets. It is about one foot wide at its base with sides gradually curving upward a distance of about two and a half feet to a central slot about three-fourths of an inch wide, and opening at the level of the street. The capacity of this channel is about equal to that of a small sized sewer.

As might have been expected, dust and mud are constantly forced through the slot and filthy washings from the street surface flow through this opening during every rainfall, and form accumulations within the conduits. To get rid of liquid matter, connections have been made with the sewers at numerous places, and traps are made use of to prevent the escape of sewer air. Manholes have also been constructed at close intervals for the purpose of cleaning out the accumulations of solid matter, as well as for making examinations and repairs. It is to the interest of the company that the conduits shall be kept as free as possible from extraneous matter; it is to the interest of the public that they shall be kept free from filth and foulness. How well these objects will be carried out remains to be seen.

It would appear from the limited observation which has thus far been permitted and by reasoning from the conditions likely to occur, that unless the filthy accumulations are frequently removed, and the ducts as frequently cleansed by the scouring action of a large body of water, a very objectionable nuisance will be created by the escape of foul air upon the streets. Unless the traps upon the sewer connections are made effective, and thus maintained, the conduits will become as noisome as the sewers themselves.

The means to be adopted to prevent the occurrence of a nuisance are therefore the frequent and complete removal of solid matters, the frequent flushing of the surfaces of the conduits by an effective body of water, and the maintaining of traps on all sewer connections in good working order. Careful attention to these three points will, without doubt, do much to prevent any just cause of complaint against the cable road from a sanitary standpoint.

LITHOLAPAXY AND LITHOTOMY IN INDIA.

From a paper contributed to the *Lancet* for February 28th, and March 7th and 14th, 1885, we find that Dr. Freyer, surgeon to H. M.'s Bengal Army, has performed 291 operations for stone in the bladder, which were attended with some remarkable results, and which are interesting as recording the experience of a single operator in a special field of surgery.

That litholapaxy is a most successful procedure in India is shown by Freyer's 111 cases. Of 108 cases in adult males, 4, or 3.7 per cent., died, while in the 3 examples in female children below the age of five, the patients were running about the following day, without the slightest inconvenience. The safety of litholapaxy is moreover shown by comparing it with lateral lithotomy, 50 operations in adult males having been attended with 9 deaths, or a mortality of 18 per cent., in the hands of Freyer, or a mortality of 11 per cent., based upon 2730 cases which occurred in six presidencies or provinces of India, in 1882. In male children or boys, on the other hand, Freyer's 132 cases of lateral lithotomy were uniformly successful, a result which is without precedent.

These results confirm the rule now recognized everywhere, except perhaps in Germany, of resorting to litholapaxy in adult males and females of all ages, and lateral lithotomy in males below the age of puberty, a rule which should not be departed from, unless it be in those exceptional cases in which epicystotomy is clearly indicated.

SPECIAL ARTICLE.

PRELIMINARY REPORT OF THE SECOND SERIES OF SESSIONS OF THE GERMAN CHOLERA CONFERENCE.

THIRD SESSION, MAY 4, 1885.

IN July last a Cholera Conference was held at the Imperial Health Office at Berlin, at which Professor Virchow presided, and a full report of which appeared in THE MEDICAL NEWS of August 23 and 30. It will be remembered that Dr. Koch opened the proceedings with an address upon his researches in India and Egypt on the origin and dissemination of the disease. At the close of the Session, it was resolved to meet again this year, and the Conference was held on May 4, 5, 6, and 7.

There were present, besides the earlier members, Prof. v. Pettenkofer of Münich, and Dr. Günther, as associates of the former Imperial Cholera Commission, and the Director of the Imperial Health Office, Dr. Köhler. The Conference entered into the discussion of the first question on the schedule of the proceedings to wit: *The demonstration and discussion of the experimental data obtained since the preceding session concerning the bacteria of cholera, with especial reference to their qualities of duration.*

PROF. KOCH opened the discussion by referring to the results published since the last meeting of the Conference. He held that the arguments of the opponents (Finkler and Prior, Klein, and Emmerich) of the bacillar origin of cholera had been critically refuted, and that from confirmed experiments the conclusion had been reached that the comma-bacillus is present nowhere else than in cholera, and that in this disease it is never absent. In proof of this conclusion, he cited the results of his examinations of cover-glass preparations of the choleraic secretion of seventy-five patients sent from Calcutta, and he showed that they were identical with a series of pure cultures of the comma-bacillus from France, Italy, and Germany. He considered it established that the comma-bacillus is exclusively a concomitant of cholera, that it may easily be distinguished from all other forms of bacteria, and is of positive value in diagnosis.

He then gave a description of his experiments upon guinea-pigs with pure cultivations. For these experiments five c.cm. of a five per cent. solution of soda, and twenty minutes afterwards ten c.cm. of meat infusion containing comma-bacilli were injected into the stomach; immediately afterwards laudanum was injected into the abdominal cavity (one c.cm. for every two hundred grammes of weight). The animals were thereby narcotized for one-half hour or an hour, but afterwards fully recovered. The following day they appeared ill; their hair was rough; there was weakness of the hinder extremities and of the muscles of the back, and they died in from one to three days. Dissection showed infiltration of the small intestine, which, as well as the stomach and cæcum, was filled with a colorless alkaline flaky fluid which contained a pure culture of comma-bacilli. Experiments of this kind were performed with eighty-five guinea-pigs.

Moreover, the use of the solution of soda and opium has been found to render the animals more easily susceptible to the pathogenic action of other bacilli; and the same experiments, but in a less degree, succeeded with the bacillus of Finkler, and that of Denecke. But in these latter experiments other phenomena were manifested. Thus, Finkler's bacillus caused a true decomposition, as is evidenced by the odor of the contents of the intestine. Therapeutic experimentation upon animals injected with the comma-bacillus has to the present time only shown that large doses of calomel, or the administration of naphthalin prolonged the life of the animal one day.

The comma-bacillus is quickly destroyed by drying and by certain disinfectant agents—*e. g.*, solution of carbolic acid of a strength of one-half per cent. To the observations upon men—which may be considered as infection-experiments (Klein, Macnamara)—Dr. Koch added some new data. One of the one hundred and fifty physicians who attended the course at the Health Office was attacked with the disease. In his dejections the comma-bacilli were found, and pure cultivations were made.

Concerning the vitality of the comma-bacillus, investigations have shown that in spring water it is maintained for thirty days, in sewerage seven days, in privy wells twenty four hours, upon damp linen three to four days, in the harbor water of Marseilles (according to Nicati and Rietsch) eighty-one days, and upon agar-agar longer than one hundred and forty-four days. This peculiarity of duration in active condition was not recognized as belonging to the spores of other bacilli.

PROF. V. PETTENKOFER declared himself not thoroughly convinced by the statements of Dr. Koch—since but little is proved by the experiments upon animals, and much better results had been obtained by Emmerich, who brought from Naples to Münich the pure culture of the comma-bacillus. The manner in which Dr. Koch infected guinea-pigs gave no explanation as to how human beings are affected by cholera. He could not acknowledge the comma-bacillus as the special cause of cholera, but considered it more probable that cholera induced certain conditions which favor the development of bacilli, and thus its uniform presence during the disease is explained. The laws of the epidemic manifestations of cholera were strained in the assumption that the comma-bacillus is the exciting cause of the disease, for whereas the bacillus is destroyed by dryness, in Lower Bengal the dry season directly favors the disease. Then, admitting that the comma-bacilli are present only in the intestine and not in the organs, it must be assumed that they produce an intensely active poison in the choleraic intestine, which has but little power of absorption; but in the pure cultures made at Münich such a condition has not been recognized. Cholera does not appear to be a combination of infection and intoxication, but a purely infectious disease. In the future, it remains to be decided whether Emmerich's bacilli can be regarded as the excitant of the disease. These were found in the different organs, as was shown by pure

culture, but were invisible in microscopical sections. Animals infected with them died with symptoms of cholera, having been seized with vomiting and diarrhœa. However the verdict as to the bacilli may be decided, there must first be demonstrated an agreement with the laws of epidemics. If those sick with cholera are not directly infected, the cholera fungus cannot be the cause of the disease, and if cholera is dependent upon season and locality, then also a cholera fungus cannot determine it.

DR. B. FRÄNKEL called attention to the fact that the only bacterium of the intestine which is morphologically similar to the comma-bacillus, is a comma-shaped vibrio occurring in the mouth. Like many other investigators, he had endeavored to cultivate this organism, which he had shown Dr. Koch before the previous Session of the Congress. He could positively affirm that this special form will not grow in gelatine culture.

DR. KOCH, replying to the observations of Prof. v. Pettenkofer, pointed out that the methods employed by Emmerich were open to objection and to error. It is entirely without analogy that a bacillus should exist and be secondary to a disease with which it was solely associated. The dry season of the year, Koch maintained, in no wise makes Calcutta dry, but diminishes the rich water-supply of the city. In contrast to the negative results reached at Münich to obtain a poison from pure cultures of the comma-bacillus were experiments not yet concluded, which he was making, giving positive results. As yet there has been no recognized case in which cholera, like anthrax and smallpox, has been spread by dry conditions, and experience was opposed to there being a permanent state of the bacillus.

FOURTH SESSION, MAY 5TH.

PROF. V. PETTENKOFER, in resuming the discussion, pointed out that the supposition that the comma-bacillus, or Emmerich's bacillus, is the cause of cholera, leaves unexplained many phenomena of the disease—*e. g.*, its latency in winter, and the subsequent renewed activity of the disease and its recognized dependence upon season and locality. Continuing, he compared the cholera infection with that of malaria, which although communicable by inoculation, still depends upon the soil. He insisted that a distinction should be observed between artificial and natural infection, and declared himself not convinced by the results of experimental infection that epidemics of the disease arise in the same manner as experimental infection.

PROF. VIRCHOW gave, as his opinion, that experiments with animals are not absolutely required, inasmuch as not all the diseases common to mankind are transmissible to animals. The symptoms present in animals infected with Emmerich's fungus, may easily be mistaken for those of cholera, while there are many substances which can produce precisely similar conditions. As long ago as 1847, by the injection of putrid material into the blood of dogs, he produced not only similar anatomical changes, but also excited vomiting, diarrhoea, and other symptoms of cholera, thereby producing parallel manifestations, but he had guarded himself against considering the two conditions identical. In Koch's experiments the opium may have prevented diarrhœa and vomiting, and therefore the experiments were in a certain sense defective, and their repetition is necessary. Emmerich, who otherwise had used extreme care, took the living venous blood, and therein cultivated his bacillus, and perhaps has obtained an accidental form of bacillus.

An argument in favor of Koch's bacillus is the fact that it is found constantly in the intestine, which is the especial seat of cholera. The secretion of the stomach is not always acid, and possibly dyspeptic conditions may render a previous preparation of the animals superfluous. Even in the diseases long recognized as dependent upon fungi—*e. g.*, "muscardine" or potato disease—the question cannot yet be answered why the epidemic arises and why it disappears, and in spite of the knowledge gained respecting morbific fungi, but little progress has been made in explaining the cause of epidemics. Although the comma-bacillus had no permanent form, yet it had a certain duration of life, for Dr. Babesch, who is pursuing his investigations in the Pathological Institute, has found, after six months diligent labor, a special form of vegetation, composed of broad, longitudinally striated spirilla, that was very durable. They originate in low temperatures, and quickly change into short comma-shaped forms. The bacillus shows distinct forms under varying external conditions. The vesicular forms described by Ferrán as evolved from the spirilla, are disintegration products and are sterile. The length of the life of this bacillus is sufficient to explain the slow progress of the disease from year to year. In other directions the discovery of this bacillus was a positive gain to knowledge in the surer recognition of the facts concerning the disease. It was not opposed to what experience has shown, as pointed out by the excellent labors of Pettenkofer, as to the dependence of the disease upon season and locality, but speculation must not be too deeply entered upon while the practical side of the question is lost sight of.

DR. HIRSCH considered that investigations in connection with the pathogenesis and prophylaxis of the disease are deserving of at least as much attention as the study of its bacteriology.

After some further remarks by Drs. Koch, Pistor, v. Pettenkofer, and Virchow, the discussion of the first question closed.

The second point for discussion was, *The Spread of Cholera by Human Intercourse, by Pilgrims, and Ships.*

PROF. KOCH opened the deliberation concerning this question by emphasizing the fact that cholera is spread by pilgrims in India, and cited additional examples of long-continuing ship epidemics, and showed how unreliable were the accounts given by sailors.

PROF. V. PETTENKOFER, in reply, attributed little importance to pilgrimages and railroad travel in the spread of cholera, and urged caution against assuming that cholera is spread by travellers.

After the close of the meeting, Prof. Koch gave a demonstration of dead and living guinea-pigs which had been infected with the comma-bacillus.

FIFTH SESSION, MAY 6TH.

The discussion of the second question was continued in conjunction with that of the third, *The Influence of Soil, Air, and Water upon Cholera.*

DR. GUNTHER cited instances to prove that intercourse between individuals does not always produce cholera, but that the occurrence of an epidemic is dependent upon the influences of time and place.

PROF. HIRSCH replied that human intercourse did not invariably cause the spread of cholera, but that every epidemic has such communication for a cause.

PROF. KOCH exhibited the results of the demonstrations made the day previous. Of the fourteen inoculated guinea-pigs only two had survived, and these also showed symptoms of infection. He suggested that possibly the same condition obtains with the cholera fungus as has been observed in other plants, namely, that sometimes especially favorable conditions for their existence are found temporarily; but, nevertheless, they afterwards die for lack of these conditions.

Dr. Koch brought forward examples to show that an acquired immunity from cholera may exist. We cannot expect in all cases to recognize such condition directly, but must be content to establish it indubitably in a certain number of cases. The fact was of the greatest importance in view of the prophylactic measures to be taken by the authorities. The long duration of cholera upon ships cannot be explained, if the soil is considered the only requisite for its outbreak, but it could be accounted for on the view of transmission from man to man, for the incubation period of cholera is short.

PROF. GÜNTHER said the incubation period of cholera lasted usually four days, but that cases were known to him in which the period had been from ten to seventeen days.

DR. MEHLHAUSEN cited instances of the spread of cholera by disbanding troops; and DRS. HIRSCH and EULENBERG gave similar instances of its spread by rafts.

PROF. V. PETTENKOFER did not deny the fact of an acquired personal immunity after an attack, but asserted that it was the local immunity which determined the occurrence of an epidemic. The disposition of a locality for an epidemic consists in part of local constant conditions, in part of local transitory (seasonal) factors. He did not deny at all the influence of traffic upon the spread of cholera, but this alone does not suffice to call forth an epidemic, and for this reason season and place must be entered as factors. In what manner the infective germ is taken from land upon shipboard he does not know. The simple shipment of a cholera patient does not suffice to cause the disease to spread.

PROF. VIRCHOW said that the supporters of the contagion theory of cholera do not assume that the transference must be directly accomplished from man to man; that is proved by infection through cholera linen, and still more by the pure cultures in which the propagation and sustenance of the cholera germs take place outside the body. It is certainly shown by pure cultures that it is not the earth wherein the germs thrive, and to the present time no case has been known where the existence of the cholera germs in the soil was proved. Notwithstanding this, he does not deny its possibility, but only disputes the exclusiveness of the soil theory. Experiment and observation of separate cases yield more certain conclusions than whole epidemics, which were only considered on a large scale. He had personal knowledge of the transference of cholera from man to man in 1871 and had published a conclusive observation in his collected works. Reference was made to an instance in which, while but one case of cholera existed in a hospital, three men were attacked who had assisted in the care of this patient. Upon board of ships transferences of cholera occur which are in nowise connected with the soil. As an example, he cited the transatlantic steamer Franklin. Although there is no doubt that the spread of cholera does not depend upon a poison, or germ arising from the soil, or is connected with an infection arising therefrom, still what is as yet known of the history of the comma-bacillis does not exclude the possibility that the disease may not, under certain circumstances, be contained and propagated in the soil. He, therefore, saw no difficulty in coming to an agreement with Prof. v. Pettenkofer, provided he abandon his exclusive standpoint of view.

PROF. V. PETTENKOFER said that he originally considered the contagion of the disease as of the highest importance, but that observation of the varying behavior of cholera, according to time and place, had compelled him to ascribe to these special importance.

DR. MEHLHAUSEN cited instances observed in Thorn in 1873, of undoubted transmission of cholera from person to person.

The next session was held May 7, and the report of the discussion will appear in our next issue.

SOCIETY PROCEEDINGS.

ILLINOIS STATE MEDICAL SOCIETY.

Thirty-fifth Annual Meeting, held at Springfield, May 19, 20, and 21, 1885.

(Specially reported for THE MEDICAL NEWS.)

TUESDAY, MAY 19TH.—FIRST DAY.

THE Society was called to order, at ten o'clock, by THE PRESIDENT, DR. D. S BOOTH, of Sparta. After prayer, by Rev. F. H. Musgrove, an

ADDRESS OF WELCOME

was delivered by His Excellency, GENERAL RICHARD J. OGLESBY, Governor of the State of Illinois. His remarks were brief and felicitous. He welcomed the members of the Illinois State Medical Society to the Capital as gentlemen, citizens, and physicians. He congratulated the people of the State that so many representative medical men could be found willing to leave their homes, with absolute unselfishness, to consult together for the public good. To physicians, more than to any other body of men, are entrusted the health and life of the people. He recognized in the science of medicine and surgery a field of infinite possibility as regards development. It is the function of these annual meetings to lift the subject above illiberal and envious criticism, and establish it upon a more enduring basis

than that of empiricism. It is true that the science of medicine and surgery is not as exact as geometry—a necessary consequence from the complex character of the phenomena. It is, however, absolutely the only guardian standing between society and the effects of disease and accident. There are dubious matters in every department of human activity, but in the practice of medicine and surgery that doubt assumes enormous importance, as human life is the issue at stake. Uncertainty in diagnosis and treatment—and every physician must at times be puzzled—only increases the dignity of the profession, since the mental agony experienced by an honest, conscientious man, under these conditions, is greater than in any other pursuit. This sense of moral responsibility must be greater in the physician than in the pure scientist, lawyer, or divine.

Dr. E. P. Cook, of Mendota, replied in appropriate terms to the address of welcome.

The President, Dr. D. S. Booth, of Sparta, delivered the usual

ANNUAL ADDRESS,

in which he discussed, in a humorous way, a variety of topics. He said that at the ninth annual convention of the American Academy of Medicine, at Baltimore, 1884, a committee was appointed to memorialize our national legislative bodies, with reference to the appointment of State Examining Boards in Medicine. The Illinois State Legislature should be memorialized in a similar way by the members of the Illinois State Medical Society.

A compliment was paid to female physicians and to one of their important functions in the repression of criminal abortion. The subject of female education was discussed at length, and many allusions were made to Dr. Goodell's excellent essay upon the topic. The germ theory of disease, the dangers of specialties, and sanitary science, received attention.

AFTERNOON SESSION.

Dr. David Prince, of Jacksonville, presented the

REPORT ON GYNECOLOGY.

In the treatment of uterine hyperplasia and plastic exudates within the pelvic cavity, he recommended that, in addition to vaginal irrigation with hot water, as suggested by Dr. Emmet, the interrupted current (faradic) be employed. A variety of gynecological instruments were exhibited.

Dr. Charles Warrington Earle, of Chicago, presented

THE REPORT ON OBSTETRICS.

He referred, in detail, to progress during the past year in various departments of the subject.

Anatomy and physiology; the ring of Bandl. Many valuable contributions to our knowledge of the condition of the cervix uteri during pregnancy and labor have been recently made. Dr. W. W. Jaggard, of Chicago, reviewed the literature of this subject in a paper read before the Obstetrical Section of the American Medical Association, at New Orleans. A marked tendency to revert to the original doctrine of Roederer and Stein, Sr., has been evinced by modern investigators. The researches of Carl Braun, Wilhelm Braune, and Ludwig Bandl, supported as they are by many clinical and pathological observations, go far to establish the fact that Schroeder's contraction ring, Spiegelberg's obstetrical internal os, Lah's pelvic-inlet stricture, Ebell's clinical or mechanical os, the ring of Bandl and Küstner, are different names for the true, anatomical internal os; that the cervix does not persist in a relatively unchanged condition until the end of pregnancy, but that, during the later months of utero-gestation, the entire supravaginal portion is usually drawn up into the cavity of the uterus.

Therapeutics. Dr. J. Suydam Knox, of Chicago, had recently read a paper entitled, "The Influence of Cimicifuga Racemosa upon Parturition," before the Chicago Gynecological Society (see The Medical News, April 11, 1885), which demanded careful consideration. Dr. Knox claimed very decided oxytocic properties for black cohosh. His conclusions were based upon the analysis of one hundred and fifty cases.

Dr. Svanberg, of Sweden, had recently written a paper upon the external use of chloroform in labor. A flannel saturated with equal parts chloroform and olive oil was applied over the surface of the abdomen, and all the benefits derivable from inhalation of the anæsthetic were secured. The subject was worthy of thorough investigation. Cocaine had been used in cases of rigid os with benefit.

Dr. Earle had written a paper, published in 1874, upon the function of electricity in post-partum hemorrhage. He referred to the excellent paper by Dr. Bater, of Texas, appearing in the April number of the *American Journal of Obstetrics*, in which the value of electricity in pregnancy and parturition is maintained. Dr. Earle agreed with Dr. Bater that electricity (faradic current) may profitably be employed in the following conditions: 1. Vomiting of pregnancy; 2. Accidental hemorrhage; 3. Induction of premature labor; 4. Aid to natural labor pains; 5. Oxytocic; 6. Prophylactic against post-partum hemorrhage.

Among antiseptic agents, the bichloride of mercury is, at present, the most popular; it has supplanted carbolic acid; real danger of mercurial toxæmia exists.

Pathology of midwifery. The association of albuminuria and eclampsia had been observed from the time of Dr. C. W. Lever, in 1843, up to the present day. Recent observers are inclined to believe that puerperal convulsions are not necessarily uræmic. He endorsed fully the treatment, recently advocated by Dr. H. D. Fry, of Washington, D. C. (see January number, *American Journal of Obstetrics*). Dr. Earle had used, with marked benefit, apocynum cannabinum.

Occipito-posterior positions, in vertex presentations, are of more frequent occurrence than old English text-books would lead one to believe. Leishman, in particular, was in error upon this subject. The mechanism of labor is difficult for the reasons that there are waste of uterine force, less resistance to the head, longer distance to traverse, and unfavorable adaptation of the presenting part. The etiology is a comparatively unknown subject.

In the management of such cases it is almost always necessary to resort to forceps. Dr. Edward Warren Sawyer, of Chicago, had read a paper upon this subject before the American Gynecological Society, at its last meeting in Chicago. Dr. Sawyer had seen forty-two cases of occipito-posterior position in vertex presentations—thirty-nine right, three left. Dr. Sawyer has been compelled to change the position of the occi-

put by bimanual manipulation, or by the application of forceps, in almost every case.

Face presentations. Schatz's method of correcting face presentations—transforming them into vertex—by flexion of trunk and allowing occiput to descend, is worthy of recommendation.

Application of the forceps in breech presentations. Dr. Earle had successfully applied the forceps in cases of breech presentation, before he became aware that the attention of the profession was directed to the subject.

Functions of the membranes in labor. Dr. Henry T. Byford, of Chicago, in the discussion of the possibility, probability, and utility of the preservation of the membranes from rupture until they dilate or aid in dilating the vulvo-vaginal orifice as well as the cervix, had advanced a most valuable method of prophylaxis against cervical, vaginal, and perineal tears.

Immediate operation for lacerated perineum. Dr. Alloway, of Montreal, had simplified a very complicated operative procedure, by the advocacy of the introduction of a single suture.

Treatment of retained membranes. Dr. Earle would select a course intermediate between immediate interference and pure expectancy. In labor, at term, it is necessary to distinguish between simple retention of a detached placenta, and retention on account of pathological adhesions. In the former case, Credé's method of expression fulfils every indication; in the latter case, it is necessary to introduce the hand into the cavity of the uterus, and sever the adhesions. While he recognized the danger of retention of the secundines in abortion, premature labor, or labor at term, he could not assent to the proposition of that gentleman who advocated the inversion of the uterus, and the peeling off of membranes and placenta in extreme cases.

Extrauterine pregnancy. Dr. Earle referred to the greater frequency of ectopic gestation than was formerly believed. He thought the plan of treatment advocated by Dr. Thomas the most rational method: 1. In the early months of pregnancy, fœtus living, its life should be destroyed by the interrupted current. 2. Fœtus alive at the expiration of the full term of utero-gestation, laparotomy is indicated. 3. Fœtus dead and the normal period of utero-gestation passed, the plan of treatment should be expectant.

Dr. David Prince, of Jacksonville, thought that the affusion of cold water upon the abdomen is a more simple and effective method in the treatment of post-partum hemorrhage than electricity. He narrated the history of a case of post-partum hemorrhage, occurring in an eclamptic patient, treated by the affusion of cold water upon the surface of the abdomen, with recovery.

Dr. C. Truesdale, of Rock Island, always advised the immediate operation for laceration of the perineum, but thought a very exact approximation of the surfaces necessary in order to avoid the formation of pockets in which pus and the lochia might collect. An imperfect closure of the rent is productive of more harm than benefit, and he did not think one suture adequate.

Dr. Wenger, of Gilman, is in the habit of rupturing the membranes when the *os uteri* is fully dilated. The dilatation of the cervix is the sole function of the membranes during parturition. He thought the configuration of the head, when the membranes are not ruptured, is less favorable to its passage through the parturient canal.

Dr. F. E. Waxham, of Chicago, had treated over one hundred cases of abortion and had only used the curette once. He had never lost a case. If the secundine cannot be removed by the finger, he allows them to remain *in situ*, and irrigates the cavity of the uterus twice daily with large quantities of carbolized water at a temperature that causes the patient no pain. Ergot is also exhibited under these conditions.

Dr. Kreider, of Springfield, exhibited an improvised rubber coil, mounted on cardboard, for mediate irrigation by Petitgaud's method.

Dr. T. M. McIlvaine, of Peoria, read a paper entitled,

MEDICINAL AND NON-MEDICINAL THERAPEUTIC AGENTS.

Between the optimists, who had unlimited faith in the action of remedies, and the pessimists, who had no faith at all, the majority of medical men take their position. Common sense is all important. All stereotyped rules and formulas must be departed from at times. He had recently treated a desperate case of typhoid fever. The patient rejected everything exhibited *per orem* but continually craved beer. The prognosis was so unfavorable that Dr. McIlvaine finally acceded to the patient's demands. Nine and one-half gallons of beer were consumed in the seven days following, and an uninterrupted convalescence ensued. A woman, with pelvic cellulitis, had been able to retain very little food, and that of a fluid character, for a period of ten weeks, urgently demanded saur kraut. One evening she ate six or seven ounces of raw kraut, the next day a larger quantity of boiled kraut, and after that no nausea was experienced, and the patient went on to full recovery. Professor Austin Flint, Sr., in a paper published in the *Transactions of the New York State Medical Association* had taken substantially the same ground upon this important subject.

Dr. E. P. Cook, of Mendota, would divide therapeutic agents—that is, drugs—into three classes.

1. Drugs, through which *positive medication* is possible. These drugs are few in number, and embrace the specifics.

2. Drugs, which may be *rationally* exhibited, but in regard to the action of which it is impossible to speak dogmatically.

3. Drugs, in regard to whose action we have actually no knowledge, are referable to "moonshine" therapeutics, and to transcendental schools of medicine.

Dr. N. S. Davis, of Chicago, said he thought there are few medical men who believe that drugs can *cure* all or most diseases. Such extravagant statements do injustice to the profession, lessen its dignity in its own ranks, and in the outside world. Dr. Chambers's statement that all disease is a retrograde movement, and that all treatment should be of a supporting character, was simply an extravaganza. Sedatives are indicated in pathological exaltation and increased functional activity, just as stimulants should be exhibited in depression. The nearer we keep to the true representation of facts, the better for ourselves and the community at large. Therapeutics is the most important and difficult of all the medical sciences, and the one to

which specialties have been of severest injury. In the enthusiasm roused by the germ theory of disease, old clinical methods of the observation of the course and cure of disease have been sadly neglected. He had no objection to putting salt on the microbe's tail, but he objected to the killing of the patient in the process. It is better to allow the microbe to kill the patient than in mistaken zeal to kill the patient in the hunt after the microbe.

Dr. T. F. Worrell, of Bloomington, referred to the modern school of therapeutics as being one of polypharmacy. He had grown up in the old Anstie school, where few remedies with known actions were exhibited. Recently he had seen a prescription from a celebrated physician in which eight distinct physiological actions were united—purgative, diuretic, diaphoretic, alterative, emetic, tonic, refrigerant and antipyretic were united in accord with shotgun principles. He still used *veratrum viride* in pleurisy and pneumonia, and accomplished good. Among emetics, he knew of nothing better and more harmless than ipecac. Among purgatives, rhubarb, calomel, blue mass and senna retained their old places. He had recently observed the foolish combination of strychnine in a laxative pill, upon the absurd theory that peristaltic action would be increased. Bleeding had been rejected *in toto* by the modern therapeutist—a most unwarrantable procedure. "Gentlemen, I exhort you not to forsake the paths which your fathers have trodden with so much benefit to their patients and honor to themselves!"

Dr. W. T. Montgomery, of Chicago, in his report on

OPHTHALMOLOGY AND OTOLOGY,

referred to the following topics: *Jequirity* in chronic granular conjunctivitis might be compared to iridectomy in glaucoma. Two years ago, while in attendance upon De Wecker's Clinic in Paris, he had seen jequirity used for the first time. Upon his return to Chicago, he had employed the drug in 250 cases of chronic granular conjunctivitis—all varieties of the affection, except the muco-purulent variety, with non-vascular cornea. A three per cent. infusion was an eligible preparation.

The lids were everted, and a brush saturated with the infusion was carried over the conjunctiva twelve times. In twenty-four hours, the desired inflammation, a peculiar membranous exudate, followed, with little local or constitutional disturbance.

Ten per cent. of all his cases were cured by one application. Twenty-five per cent. by two or three applications. Thirty per cent. by three to fifteen applications. Twenty per cent. were improved by one application. Twenty-five per cent. were not improved at all.

The applications were separated by intervals of at least twenty-four hours. In no case was more than the fourth application necessary to produce the inflammation. In two cases, the application three times was successful in producing the inflammation. Time required for recovery was one to three weeks. He had not seen a case of sloughing of the cornea, but three cases of dacryocystitis resulted from the treatment.

The drug should be used under the following precautions: 1. Never employ jequirity when the cornea is clear. 2. Never repeat the application within twelve hours. 3. Allow previous inflammation to subside before a second application.

Cocaine might be compared to the ophthalmoscope, in the inauguration of a new era in ophthalmology. Nothing so important has been invented or discovered since the days of general anæsthesia. Since November 1, 1884, Dr. Montgomery has performed the following operations with cocaine as a local anæsthetic: 2 cataracts, 15 needle operations, 5 iridectomies, 2 iridectomies for glaucoma, 1 foreign body in anterior chamber, 30 tenotomies, removal of numerous foreign bodies from cornea, Bowman's operation for pterygium. He employed a two to four per cent. solution. In iridectomy for glaucoma, the removal of foreign bodies from the anterior chamber, cocaine had yielded unsatisfactory results in his hands. In tenotomy of the recti, the injection of a few drops of the solution into the cellular tissue was of advantage. 10 cases of phlyctenular keratitis had been treated with the drug, and excellent results secured. In 12 cases of iritis, results were only partly satisfactory; relief from pain was incomplete.

One case of episcleritis was treated by the bichloride of mercury and potassium iodide internally and cocaine locally. He was unable to decide whether or not the anti-syphilitic treatment was the active agent.

Professor Graefe's substitution of *evisceration of the bulb* for enucleation was important, as there is no danger of meningitis, and the stump is superior. Although Professor Graefe claims the operation as original, Professor E. L. Holmes, of Chicago, had performed the operation years before, and Dr. Montgomery himself, at Professor Holmes's suggestion, had used this method in 1876.

Chancre of the eyelid, produced in an unusual way. A patient, two months ago, while at work in the kitchen, spilled the pepper-box into her face. A domestic endeavored to clear the conjunctival surfaces by the insertion of her tongue under the palpebral conjunctiva. Two weeks later, a characteristic sore appeared.

Dr. S. J. Jones, of Chicago, thought that it was not justifiable to employ jequirity in chronic granular conjunctivitis in the present state of our knowledge. The local effect and constitutional reaction are not always insignificant. Sloughing of the cornea and dacryocystitis are well-known effects of local application; chill, high fever, and nervous symptoms have followed as evidence of systemic reaction. The entire treatment is empirical. De Wecker received the drug from a South American patient, found it effectual in a few cases, and based his deductions on too little experience. The drug should not be condemned, neither should it replace old, tried, effectual, and *harmless* agents. In his own case, he would not employ the remedy; patients deserved the same consideration.

He thought hydrochlorate of cocaine is valuable in the production of superficial anæsthesia. It may be employed when general anæsthesia is contraindicated. He had used the drug in two iridectomies, but the patients complained of pain. He thought the reaction following the local use of the drug due to the mental effect of the operation. Finally, he thought that there is danger of claiming too much for the remedy, as reaction must set in and may result in its total rejection.

Dr. Montgomery said that if he had chronic granular conjunctivitis, he should not hesitate to use jequirity. With reference to the physiological action of the remedy,

it produced a peculiar membranous inflammation as the result of ulceration of a very superficial character, much in the manner of bluestone. He had kept a solution of cocaine for over three months, and had not observed any deterioration as suggested by Dr. Skeer. Cocaine constricted the bloodvessels, rendering the parts anæmic.

Dr. J. D. Skeer, of Chicago, suggested that the action of jequirity might be explained by an ulceration of fibrinous deposits in the submucous tissue.

Dr. Robert Tilley, of Chicago, read a supplementary

REPORT ON OPHTHALMOLOGY.

He referred to the *relation of optic neuritis to brain tumors*, and his remarks were based on the one hundred and seven cases tabulated in the *Transactions*, for 1884, of the Ophthalmological Society of the United Kingdom, by Messrs. Walter Edmunds and J. B. Lanford, of England. They had previously expressed the opinion that optic neuritis, when it exists as a consequence of brain tumor, is the result of a secondary meningitis. In the examination of the reports associated with their post-mortem examinations, the statement of the existence of optic neuritis refers only to its manifestations early in the clinical history of the cases reported, at such time, in fact, when the other symptoms were of such a character that there could be no doubt of the existence of some special disturbing influence in the brain.

In the study of the one hundred and seven cases, they were arranged into ten groups, according to the location of the tumors, thus:

Tumors in	Optic neuritis.	No optic neuritis.	Total.
1. Anterior frontal convolution	8	2	10
2. Motor convolutions		12	12
3. Occipital lobes	5	4	9
4. In hemispheres (not otherwise specified)	6	4	10
5. Ganglia at base	17	3	20
6. Temporo-sphenoidal lobes	1	2	3
7. Cerebellum	20	3	23
8. Medulla and pons	3	6	9
9. Meningeal growths at motor convolutions	4	1	5
10. Meningeal growths elsewhere	4	2	6
Total	68	39	107

In summing up the groups those situated in the convex region of the brain, groups 1, 2, 3, 4, and 9, were added together, and fifty per cent. of the cases were found to have exhibited optic neuritis when first examined. whilst of the cases situated rather towards the base, groups 5, 6, 7, 8, and 10, seventy-four per cent. revealed optic neuritis and the estimation, so far as it was possible, was thought to favor the supposition that the optic neuritis was due to an extension of the meningitis. A curious fact in the investigation was that nine out of twenty cases of tumors in the cerebellum were associated with absolute blindness before death.

Under the subject *Operative Measures for the Relief of Glaucoma*, he referred to the fact that nine per cent. of all the blind are probably so affected as a result of glaucoma and that whilst operative measures are usually very successful in acute cases, similar success is not by any means so certain in chronic cases. As proof of this reference was made to the various operations which have been devised as remedial measures. For instance, drainage with gold wire, sclerotomy, internal myotomy, trephining the sclera and later the operation of Dr. Geo. E. Walker, of Liverpool, and the one described in the monograph of Dr. Geo. Lindsay Johnson, of London, England. The first making an incision through the external border of the cornea, through the periphery of iris and dividing the ciliary body at the same time, the latter claims great advantage from a paracentesis of the vitreous chamber with special precautions.

The reporter further described the operation advocated by Prof. Alfred Graefe, as a *substitute for enucleation of the eyeball*, which consists in a removal of the cornea and contents of the sclera. The operation cannot of course be adopted where the orbital tissue or the sclera is involved in any malignant morbid changes. The advantage of the operations are larger stump and the leaving of the lymph sheath of the optic nerve intact.

Adjourned.

Wednesday, May 20th.—Second Day.

Morning Session.

After the reports of the Special Committees on State Legislation, a recess of ten minutes was taken in order elect a Nominating Committee.

Upon reassembling, Dr. E. F. Ingals, of Chicago, read a paper entitled *Recurrent Laryngitis, in Relation to Obstruction of the Nares, or Chronic Post-nasal Catarrh.*

Dr. J. P. Matthews, of Carlinville, read a report of a case of

TRACHEOTOMY FOR STENOSIS OF THE LARYNX, PRODUCED BY TYPHOID ULCERATION,

and presented the patient for inspection. The man, 28 years old, of good antecedent history, took cold October 4, 1884. He complained of much hoarseness at that time. In November, 1884, Dr. Matthews attended him during a severe attack of typhoid fever, which lasted about thirty days. The hoarseness and dyspnœa began to subside about the thirtieth day, but the function of the larynx was never perfectly restored. Laryngoscopic examination revealed thickening of the aryepiglottideal folds and stenosis of the larynx. Bloody purulent matter was expectorated, which led to the diagnosis of ulcer below the vocal cords.

January 6, 1885, tracheotomy was performed, and the symptoms of dyspnœa relieved. A large quantity of bloody pus was expectorated, confirming the diagnosis of ulcer below the cord. The patient still wears the tube, although Dr. Matthews thinks it can now be safely removed. The ulcer was probably due to typhoid fever, as there is entire absence of pulmonary disease. Dr. Matthews related the history of a case of spasmodic asthma, cured by the relief of a chronic post-nasal catarrh.

Dr. Prewitt, of St. Louis, alluded to a case of obstruction of the posterior nares, cured by breaking off a portion of the septum by means of Adam's forceps. Dr. Prewitt narrated the history of a patient with pneumonia; sudden dyspnœa occurred, leading to the opinion that obstruction in the larynx existed; tracheotomy was

performed, a fibrinous cast was expelled, and the patient recovered.

Dr. Ingals thought that laryngotomy was indicated in Dr. Matthews' case.

Dr. F. E. Waxham, of Chicago, referred to the treatment of laryngeal stenosis by tubage.

Afternoon Session.

Dr. A. E. Hoadley, of Chicago, presented a paper entitled *Too Frequent Feeding as a Cause of Disease in Infants, and a Protest Against One Cow's Milk.*

Dr. C. Truesdale, of Rock Island, read the report on

TETANUS.

He narrated the history of two cases of tetanus, occurring in his own practice, during June and July, 1882, which terminated favorably. The treatment was local and constitutional. Locally, a saturated solution of carbolic acid (six per cent.) was injected hypodermatically; constitutionally, morphia, calabar bean, choral, and bromide of potassium were successively pushed to their full physiological actions.

Dr. G. G. Craig, Health Commissioner of Rock Island, had recently treated two cases of tetanus with success, by Dr. Truesdale's method.

Hypodermatic injections paralyze the peripheral nerve terminations, while the employment of the most powerful depresso-motors, successively, pushed to their full physiological actions, complete a line of treatment, which Dr. Truesdale is inclined to believe almost specific.

Dr. T. R. Brower, of Chicago, Chairman of the Special Committee on

THE TREATMENT OF EPILEPSY,

read an interesting report. His conclusions were:

1. Surgical procedures offer the most certain methods of cure; the removal of cicatrices, trephining, oöphorectomy, and ligation of the vertebral arteries being the more important operative procedures.

2. The general treatment should be mainly addressed to building up the general nutrition of the patients. Brucia, strychnia, and arsenic are the most important therapeutic agents.

3. Depressing agents, such as bromides, are palliative rather than curative. To be curative, they should be pushed to bromism, hoping thereby so to alter the nutrition of the nerve-centres as to make the epileptic habit impossible when they are withdrawn.

On the report of the Nominating Committee the following were elected

OFFICERS FOR THE ENSUING YEAR:

President.—W. A. Byrd, M.D., of Quincy.

Vice-Presidents.—Drs. W. T. Kirk, of Atlanta; and A. Wetmore, of Waterloo.

Permanent Secretary.—Dr. S. J. Jones, of Chicago.

Treasurer.—Dr. Walter Hay, of Chicago.

Assistant Secretary.—Dr. I. H. Luce, of Bloomington.

Place of Meeting.—Bloomington.

Time.—Third Wednesday in May, 1886.

Thursday, May 22d.—Third Day.

Morning Session.

Dr. H. J. Reynolds, of Chicago, read a paper on the

TREATMENT OF ECZEMA.

He uses in the subacute and the chronic conditions (either of which may at any time develop acute symptoms and require the treatment changed accordingly), pure, impalpably fine boracic acid as a dusting powder, having first gotten rid of crusts and scales by soaking with oil and washing with soap and warm water. In the chronic, however, he uses greater stimulating measures, in the way of green soap frequently rubbed in during washing. To relieve intense itching, he has found nothing so effectual as first-class letting alone.

He thinks bandaging and strapping advisable whenever practicable, and prefers the cotton roller to the rubber where there is much exudation or maceration of the skin. He reported two cases of twelve and twenty years' standing respectively, of eczema rubrum of the leg associated with varicose veins and ulceration, where many remedies had been tried without success that he cured by the application of boracic acid and bandaging, and a saline laxative internally.

Dr. W. A. Byrd, of Quincy, read an interesting

REPORT ON SURGERY.

In the consideration of special subjects, he alluded to recent progress in the extirpation of the thyroid gland and Kocher's strictures upon thyroidectomy, published in 1883. Zesas found that thyroidectomy in animals was soon followed by a general morbid condition. Dr. Byrd had removed the thyroid gland once, three or four years ago, from a lovely child four years of age. She did well for a few months, and then wasted away and died. The value of such a work as Dalton's *Topographical Anatomy of the Brain* is made apparent when we see Drs. Lee and Fenger, of Chicago, opening an abscess of that organ, and Mr. Richman J. Godlee, of London, cutting down upon a glioma the size of a walnut and removing it.

Operative procedures for the cure of epilepsy and insanity are becoming more common and he believes more successful. The failure, in some instances, in effecting a cure being, perhaps, due to not removing enough of the irritating bone, as suggested by Dr. W. T. Briggs, of Nashville.

Abdominal surgery is advancing. Dr. Wm. T. Bull, of New York, cuts down upon injured intestine from a bullet wound, resects the injured portions, and the patient recovers. Dr. Edmund Andrews, of Chicago, has had two cases of gunshot wound of the abdomen, with injury of the intestines—in one case the stomach was empty, in the other full of beer—which recovered without operation. Dr. Joseph Grindon, of St. Louis, reports a case of incised wound of the abdomen, with injury to the intestines, recovering after resection of two inches of the tract.

Several cholecystotomies have been performed during the year; Dr. Charles T. Parkes, of Chicago, reports an interesting case of this character. An autopsy made by Dr. R. G. Bogue, of Chicago, showing six gall-stones, the size of a filbert, impacted in the common duct, demonstrates the futility of the method of exploration with an aspirator needle, suggested by Dr. Whittaker and Dr. Ransohoff, and the advisability of exploratory incisions. Dr. Byrd mentioned the ingenious proposition of Dr. J. McGaston, of Atlanta, Ga. That bile is not absolutely essential for life is proven by the case cited by Dr. F. W. Beard, of Vincennes, Ind., of a patient who survived for years with the bile flowing from a fistule he had formed with his scalpel.

All surgeons admit that amputation at the hip-joint is one of the most formidable operations that they are called upon to perform. Not alone from the extensive surface laid bare and the shock, but from hemorrhage and the evils resulting from the means employed to control the hemorrhage. When the abdominal tourniquet is employed, the intestine may be so bruised as to cause enteritis, perforation, peritonitis, and death. Davy's lever, even in his own hands, has so wounded the bowel as to cause death, while introduction of the entire hand into the rectum frequently causes laceration of the colon. To obviate this, Lloyd, of Manchester, adopted the method of passing a stout India-rubber tube around the hip, allowing the ends to cross above Poupart's ligament; under the point of crossing a compress was placed so as to bear on the artery above the ligament. The ends of the tube were then entrusted to assistants. This method was tried successfully by Dr. Wheaton, of St. Paul. The objection to it is that it is tiresome to the assistants, and brings more persons than are necessary around the operating table, to be in the way of the operator. The latter objection applies equally to some of the methods mentioned above.

To obviate these evil effects, Dr. Byrd has devised the method of applying a figure-of-eight of three-quarter inch French elastic tubing around the affected hip and opposite side of the body. Where the tubing passes in front, to go under the perineum of the affected side, it should come on the front side of the anterior superior process of the ilium, and go below the process when it crosses the body on the opposite side. Then to keep the transverse portion from rising over the lax tissues of the abdomen, tie a piece of bandage around the tube about the middle of the back and bring it forward over the perineum and tie down the front part of the tube. Then apply a three inch tightly rolled bandage, two inches thick, over the course of the iliac artery where the rubber crosses, and with heavy thread or twine stitch it to the former by the rubber. Retract the portion of the elastic band behind the affected limb with a piece of bandage passed around it and tied to the back cross rubber, drawing it tightly. This is done to prevent its slipping off when the limb is raised or amputated.

Dr. Byrd has tried this method twice during the past year, and knows nothing that could be more satisfactory. In one case operated upon, near Hannibal, Mo., 29th September, 1884, for osteosarcoma, by amputation at the hip-joint, the patient was a large man, and had had the femur amputated through the lower third, the year previous, for sarcoma of the knee. The disease had returned, and was giving him great pain. After the operation, there were not more than six or eight ounces of blood upon the floor. The vessels were twisted, and the patient was in bed in fifty minutes from the time he was taken from it to the table.

In the other case, the patient had sustained a compound fracture of the femur from falling from the top of a moving railroad car to the bottom of a ravine, the distance being about thirty feet. This was April 4, 1885. The shock was so great, that he was not fit for amputation until April 8th, by which time there were symptoms of acute osteomyelitis. Amputation was performed as above indicated, and he died the morning of the 12th, not from the amputation, but from phlegmonous inflammation in the other limb, which had been greatly bruised, causing septic troubles. The patient did well for two days after the amputation, and it seemed as if he would surely recover, until the swelling commenced in the opposite leg. The vessels were twisted, but an Esmarch's bandage was not applied, as it was deemed undesirable to drive any decaying material into the circulation. There was a good deal of ichorous infiltration, in spite of free drainage, that had been established through the lower portion of the wound with rubber drainage-tubes. The limb was elevated to allow the blood to flow back into the body before the application of the tourniquet. There was some blood escaping from the vessels of the amputated limb, but with that exception there was not a half ounce lost. By this method, hemorrhage from the femoral, gluteal, and obturator arteries is controlled.

Dr. Byrd is firmly convinced that twisting is a much safer method of treatment than the ligature, when applied to large vessels. The femoral vessels were twisted as they emerged from under Poupart's ligament, and he would have been perfectly satisfied to have twisted the common iliac or aorta, should any possibility have required it. If a ligature is applied to an atheromatous artery, the vessel will, most likely, give way, and there will be secondary hemorrhage. Vessels in such condition should be treated by some one of the methods detailed in systematic treatises on acupressure.

How long should a vessel be twisted? Until the elasticity of its coats gives way. Take a leather tube, which is inelastic, and bend it in a twist sharply upon itself once, and try to force water through it, and you will find that it will give way. The artery, when rendered inelastic, will obey the same invariable physical law. What instruments are necessary to perform torsion or twisting satisfactorily? One good, solid-jawed pair of forceps that will not *wabble* during the pressure of the operation, such as the Golding-Bird slide-catch forceps, or the Prince or Lawson Tait ring-handled pressure forceps. The objection to using two forceps is that the vessel is apt to be torn across to some extent, near the jaw of the forceps that holds it cross-wise. Dr. Byrd has not ligated an artery of any size for nearly five years, and does not think he ever will, if his results in the future are as favorable as in the past.

There is one operation where twisting is especially indicated, and that is castration. The whole cord should be caught up in the jaw of a stout pair of forceps, and cut off nearly an inch from the same. By this method the hemorrhage is controlled, and the vessels will protrude from the cut end of the cord most satisfactorily, so that they may be picked up leisurely and twisted. In this instance, the Crop forceps does no harm, since the vessels are surrounded by a mass of tissue that prevents them tearing across at the corners. The cord is dropped, and there is no fear of the agonizing pain, or even tetanus, that sometimes follows the catching up of some filament of nerve in the grasp of the ligature. There will not be the long waiting for the ligatures to come away, sometimes having to be coaxed away with little elastic bands (Ashhurst) fastened to the limb with sticking-plaster.

Some years ago—not many—Dr. Byrd read a paper—a translation from the German, by Dr. Nicholas Senn—in which the surgeon recommended the opening of psoas abscess in the groin, and passing a probe or sound

along the sinus until above the ilium, and there making another opening down to the sound, thus shortening the passage-way of the pus and rendering recovery more rapid and certain. Mr. Frederick Treves, of London, recommends, and has practised, cutting down directly upon the diseased vertebræ, but limits the operation to diseased lumbar vertebræ. Dr. Byrd thinks the operation can be very readily and safely extended to cases of caries of the dorsal vertebræ, resecting if necessary a portion of the rib or ribs near the vertebral column.

On April 10, 1885, a man, thirty years of age, appeared at Blessing Hospital. He had Pott's disease, involving the four lower dorsal vertebræ, with a resultant psoas abscess, pointing under Poupart's ligament, nearly ready to burst. He was anæsthetized, and the abscess was opened at its most dependent point, and a solid tin probe, the size of an American gauge, No. 15 catheter, passed up to the sinus until its point was under the edge of the twelfth rib. It was then cut down upon, a drainage-tube attached to it, and the probe withdrawn, carrying with it the drainage-tube, which was left in the sinus a length of fifteen inches. The sinus was washed out twice daily with a strong solution of boracic acid. In four days after the operation, the patient returned to his home, at Wendon, Ill., recovery assured.

Dr. W. H. Veatch, of Carthage, read a very brief abstract of a paper entitled, *Intestinal Obstruction*, after which the Society adjourned.

The members were entertained at a reception on Tuesday evening, at the Executive Mansion, by His Excellency, the Governor of the State.

COLLEGE OF PHYSICIANS OF PHILADELPHIA.

Stated Meeting, May 6, 1885.

The President, J. M. Da Costa, M.D., in the Chair.

Dr. H. C. Wood presented a paper on

THE BASAL PATHOLOGY OF CHOREA,

in which he stated that he had come to some definite conclusions concerning the basal pathology of chorea, which he should be glad to communicate to the College, and give the grounds for his belief.

The first point which he wished to make is, that the term chorea is simply one which is analogous to the term paralysis, and that the choreic movement is no more the same thing, necessarily, in its basal pathology, than is palsy the same thing in its basal pathology. When we come to study the various forms of disease closely connected with the choreic movements, we find, in the first place, the so-called cerebral or post-hemiplegic chorea, in which, after cerebral palsy, there appear violent convulsions with choreic movements. The seat of this lesion has been assigned by Professor Charcot to the corona radiata, near the lenticular nucleus; and there have been a number of post-mortems made which verify this view of its location. There can be no doubt that, in many cases, the lesion is situated in this position; but, on the other hand, it is equally certain that there have been cases of so-called post-hemiplegic chorea in which the lesion has been in the external capsule and in the cortex. We may, therefore, say that this post-hemiplegic chorea is associated with various lesions in the brain, so far as seat is concerned.

Then again, there has been reported in the *Compt. Rend. Société Biologie*, of Paris, a case of typical post-hemiplegic chorea, having absolutely all the features of organic hemiplegia with chorea, in which the most careful examination made by thoroughly competent persons failed to show any lesion whatsoever of the brain. As there had been a previous history of hysteria, the patient dying of pneumonia, we are forced to the conclusion that we may have post-hemiplegic chorea, which is without lesion, and hysterical in its nature.

When we come to study the more general forms of chorea, leaving out of sight for the present the chorea of childhood, or St. Vitus's dance, we have a chorea which is plainly hysterical; we have the electric chorea of the French, which he believes to be another form of hysterical chorea. We learn that, therefore, we may have a chorea dependent upon lesion of the brain, which also may have various seats, or we may have a chorea independent of any lesion whatsoever in any portion of the nervous system.

When we come to study chorea of childhood, we find that the pathology is perfectly parallel to that of the other forms of chorea. We have a large number of reported cases in which the lesion was evidently capillary embolisms of various portions of the brain, especially of the corpora striata and optic thalami, but also in other portions. We have other cases in which no lesion was to be found Then we have recent cases, especially reported by Dickinson and Ross, in which serious lesion was found in the spinal cord. The clinical history of chorea in childhood also shows conclusively, to his mind, that it may exist without any organic lesion which can be detected. We have it developing in a moment from emotion, passing off in a few weeks, and affected immensely by a few doses of arsenic or other agencies which would be powerless to affect any severe organic lesion.

So far as the study of the disease in the human subject is concerned, he thinks that these remarks sum up all that we can reach to, namely, that we may have chorea with various lesions and without lesions.

Dr. Wood stated that he had been much interested this winter in studying chorea in the dog. It has been affirmed that chorea in the dog is different from chorea in the child. The great reason for believing that the disease is distinct is, that in the dog the movements are chiefly rhythmical, whereas in the child the movements are not usually rhythmical; but he has seen dogs with absolutely arhythmical chorea, and with all the awkwardness of chorea of children; and occasionally, we have more or less of the rhythmical type in children. When we come to look at the points of resemblance in the two diseases we find, in the first place, in each case it especially affects the young animal. In the second place, that in each case the disease is associated with a constitutional disorder—distemper in the dog, rheumatism in the child. In the third place, the symptoms are exactly analogous, except that there is more tendency to rhythm in the one than in the other. In the fourth place, the clinical experience of veterinarians and of physicians has led to the same result, namely, that arsenic is the best remedy that is known for chorea in the dog, and that it is the best that is known for chorea in the child.

Unless, in the case of a contagious disease, where you

can pass the disease from one animal to another, it is manifestly impossible to be perfectly positive that a certain disease in the animal is the same as a certain disease in the child, but when you find the habit of the affections the same, the symptoms parallel, and the therapy identical, you have as good reasons as can be possibly assigned for believing that the diseases are closely similar. It is, however, not necessary for my present purpose to take it for granted that the diseases are the same.

When he came to study chorea in the dog, the first point to settle was the seat of lesion. He therefore cut the spinal cord so low as not to interfere with breathing. He found that invariably the choreic movement continued after section. Before the section the motions of the front and hind-legs were synchronous—that is, a wave of motion starting in the front paw would pass down the hind-foot, but after the section this synchronous movement was wanting. The hind-legs were completely isolated from the upper portion of the nervous system, and yet continued to exhibit the choreic movements, proofs that the movements originated in the spinal cord. He therefore had his search for the seat of lesion narrowed down to a small fragment of nerve-tissue. He found that not only did the movements originate in the spinal cord, but that they orignated, in all probability, in the motor cells, because when he galvanized the bared sciatic nerve, although the animal exhibited no signs of pain, the movements in the hind-leg were at once inhibited. The galvanism of the sciatic nerve could only affect the motor cells. Therefore he came to the conclusion, physiologically, that we had to do here with movement which originated in the motor cells of the spinal cord.

The next step was to examine the cord. Gowers and Sankey found in the cord a peculiar infiltration with leucocytes, and they came to the conclusion that leucocytal infiltration was the basal pathology of this disorder. Gowers had previously examined a cord without finding this condition. Dr. Wood examined a spinal cord and thought that he had found Gowers's lesion, but he was careful not to say so positively, because he had a suspicion that what was supposed to be a lesion was simply a peculiarity of the dog's cord. When he examined the cords of healthy dogs he found the same leucocytes. He did not say that what he saw was the same as the condition described by Gowers.

When he first examined the cord he perceived nothing wrong beyond what has been noted, but, bye-and-bye, as he began to study the specimen more and more closely, he found that the motor cells refused to take the carmine and hæmatoxylon staining as they should do. Then he remembered that he had killed the dog early in the disease. Then he took the cord of a dog which had died of the disease. Under these circumstances the lesion in the motor cells was very marked. They were crumpled up, the processes were gone, and the nuclei had disappeared. They were merely masses of matter, taking very little staining, just enough to show that they were protoplasmic. As he killed dog after dog in different stages, he found that the motor cells were to be noticed in all stages of degeneration. First, the perfect cell, then the cell which stained badly, then one with nuclei disappearing, the margins becoming obscured, the processess dropping off, and opacity occurring; and, finally, the irregular protoplasmic ball. In a few cases he noticed peculiar degeneration, *i. e.*, the formation of vacuoles in these cells. A change, then, in ganglionic cells is what he believes to be the basal lesion of chorea.

It so happens that, some years ago, Putnam, of Boston, studied chorea in the cat. In the first case he found no lesion, but in the second he found the lesion which he had described. The important point is, that he found that this lesion pervaded not only the spinal cord, but the whole nervous system. We all know that the choreic movement is only a part of the symptoms of the disease, and that the moral and intellectual part of the child also suffers. He believes that in children we have an altered condition of the ganglionic cells. The reason that no lesion is found early is, that the disease is at first functional. It is not necessary that he should call attention to the fact that there is no such thing as functional and organic disease. The line which we draw is a purely arbitrary one; for, the moment there is altered function, there is altered protoplasmic change, and, when there is altered protoplasmic change, there is altered nutrition, and then organic disease. Our microscopic eye is so blind and gross that it cannot see these fine changes until they become so distinct that we can detect them, and then we say that organic disease exists.

The history of chorea he conceives to be this: Owing to emotional disturbance, some stopping up of various vessels of the brain, or sometimes to the presence of organic disease, now this cause, and now that, there is an altered condition of the ganglionic cells throughout the nerve centres. If the cause is removed and the altered condition of the nerve cells goes only so far, it remains what we call a functional disease. If it goes so far that the cells show alteration, we have an organic disease of the nervous system.

The capillary emboli, the clots, the tumors, and the various gross lesions which have been found in chorea, are not, in his opinion, the basal lesion, but the cause which produces these changes in the cells which are at the bottom of the choreic movements.

Dr. S. Weir Mitchell asked if he understood Dr. Wood to say that he considers the lesion of the spinal cord as essential to the production of chorea, or does he think that there may be chorea dependent upon a descending lesion?

Dr. Wood said that in his detailed account he would give cases in which descending degeneration is present.

Dr. Osler hoped that he might be allowed to say a few words on the subject, as owing to the kindness of Dr. Wood he had an opportunity of examining these specimens. He cannot say that the specimens carried as much conviction to his mind as have the words of Dr. Wood, to-night. At the same time, the changes which he has described are undoubtedly present. The only question is as to the interpretation of these appearances; whether they are really the result of the disease, or whether they are the result of methods of preparation, is extremely difficult to determine. In regard to presence of vacuoles, they have been seen and described before. We all know that the appearances in the nerve-cells of the cord are, above all other things, most deceptive. It strikes him that these appearances are not altogether conclusive to prove that Dr. Wood has arrived at the true essence of the pathology of the disease.

TORONTO MEDICAL SOCIETY.

Stated Meeting, April 30, 1885.

The President, Dr. R. A. Reeve, in the Chair.

OSTEITIS DEFORMANS.

Dr. McPhedran presented a case of this affection. Mrs. M., aged 63, English, good family history. Healthy till she was 45; since then she has been ailing. Six or seven years ago had a severe illness, in which her right side was paralyzed. She soon recovered from the paralysis, except some numbness in region of distribution of ulnar nerve of right hand. Within a few months she began to complain of pains in right leg, and soon noticed that it was larger and beginning to bend. The curving has gradually increased ever since. Shortly after, the right side became the seat of irregular pains, and it began to "fall in." About three years ago, right hip began to pain her and thigh to bend. For last three or four years has found walking troublesome, the difficulty gradually increasing. At present the right tibia is considerably enlarged and markedly curved; the curve is convex forwards and outwards. The femur of same side somewhat thicker, and its natural curve increased. Standing with heels together, the knees are about two inches apart; were the left leg equally affected, as is usual, the knees would be very far apart. The ribs on the right side are considerably contracted. No changes are to be found in any of the other bones. There is a tumor, hard, fairly smooth, and painless, about the size of a large orange, below the liver, and apparently free from it. Its inner margin is about two inches external to the umbilicus. The gait in walking is awkward, but does not interfere with her duties as housewife. General health fair; excretions normal.

This disease was first described by Sir James Paget (*Lancet*, 1876, vol. ii.). It seldom begins under the age of forty, and usually later. It is slow in its progress, and may exist many years without detriment to the general health. There are in some cases troublesome pains, but they are neither nocturnal nor periodical. The disease affects the long bones of the lower extremities most frequently, and it is usually bilateral. The vault of the cranium is frequently diseased, also the clavicles. The affected bones become larger and heavier, but so weakened as to bend beneath the weight of the body. The spine may sink and seem to shorten, with increase of the dorsal and lumbar curves; this may be due to the great weight of the head, or disease of its own structure. The loss of stature in some cases has been as much as two inches. The arms are seldom affected; those in whom they are diseased are usually female. Respiration may be interfered with, owing to the increased dorsal curve causing such approximation of the ribs as to interfere with their free movement. There is no fever; excretions are normal.

In examination of the bones after death, the skull when affected is found greatly thickened, the sutures obliterated, the grooves for the vessels much deepened, and the distinction between the inner and outer tables lost. The changes in the long bones are usually confined to the compact tissue of both shaft and articular extremities. It is greatly thickened, sometimes encroaching on the medulla, which in some cases is diffluent and redder than normal. Microscopical examination shows a diminution of the number of Haversian canals, which are enlarged and filled with fibro-nuclear tissue, leucocytes, and occasionally myeloid cells and fat around the vessels. The lacunæ and canaliculi are normal. Chemical examination shows little change from normal bone.

These facts indicate that the disease is a chronic inflammation of a low type. It is distinguished from other inflammations whether simple or gouty, strumous, syphilitic, etc., by the clinical history and the retention of good health. In arthritis "deformans" the general health also remains good, but then the local changes are confined to the articular extremities: this disease is never found associated with osteitis deformans. Rickets and osteomalacia are quite different. In rickets the bones are too short and small and have curves different from the curves in this disease; in osteomalacia the bones are thin and the curves are angular. Nothing is known as to the cause of this disease. Lunn has suggested that it is a constitutional disease causing atrophy and absorption of a large part of the osseous system. (*St. Thomas Hosp. Rep.*) The compensatory formation of bone might be looked upon as an ill-developed callus. A large number of the cases reported have died of malignant disease. Of the five cases originally reported by Sir Joseph Paget, three died of cancer.

Treatment has effected nothing as yet. Potassium iodide has been much used; one case that consulted Wilks came with a pile of prescriptions in all of which this formed the staple. It is useless to give this remedy, as it has no effect on fully formed bone. The disease must be specially rare in America; I have met with no other case nor have I seen a description of such in any of the American Journals.

A CASE OF MOTOR APHASIA FROM INJURY, WITHOUT PARALYSIS OF ANY OF THE LIMBS.

Dr. J. H. Burns gave the following notes of the case. Mr. K. æt. 56, healthy and robust, fell down stairs; he was assisted to his feet and with help walked to a chair. He did not then speak or at any time subsequently. He became unconscious about three hours later. In my absence Dr. Duncan saw him that evening for me, and with me the next morning, by which time he had recovered consciousness and was able to leave the bed. His bowels had been freely moved with croton oil. There was an injury to the soft tissues over the right eye, but no fracture could be made out. He swallowed with great difficulty; there was neither motor paralysis nor anæsthesia of any part of the limbs. Twenty-four hours after injury pulse was 100, temp. 101°. Dr. Workman saw him in consultation following morning, temp. 104°, pulse 120. During the afternoon he had a convulsion and after that convulsions recurred every ten minutes till he died at 2 P.M. next day. The left side was most affected with the convulsions. During this time there was retention of urine. Death took place sixty-eight hours after injury.

Post mortem seven hours after death. Extravasation into subcutaneous tissue over parietal and temporal bones of right side. There was an extensive fracture in this region with slight depression. Dura mater intimately adherent to calvarium. A large clot was found between dura mater and skull at seat of fracture. Great congestion of cerebrum beneath this. Another clot was

found beneath the dura mater on left side of brain opposite seat of injury, with extensive disorganization of the lower part of middle lobe of brain on left side. Heart and lungs normal, liver small but apparently healthy, kidneys healthy.

DR. DUNCAN, who assisted at the autopsy, said there were two distinct clots on the left side; one in the arachnoid space pressing on the temporo-sphenoidal lobe, another beneath this in the brain substance, in which on removal of the clot there was a laceration half an inch deep and one and one-half by one and one-fourth inches in extent. This clot probably resulted from rupture of a branch of the Sylvian artery. From symptoms, he had expected to find some such injury. The presence of *three* distinct clots was an unusual circumstance.

DR. WORKMAN said that he visited the patient in consultation on the 13th of April, and he is able to confirm all that has been stated. The symptoms that most attracted his attention was that of motor-aphasia unaccompanied by any paralysis in the lower or upper limbs. The only mark of external injury was the swollen and blackened state of the right eye. Close examination of the supraorbital region of the frontal bone gave no indication of fracture, nor did examination of the side of the cranium present any. The patient had evidently free use of the muscles of the arms and legs. When he saw him there was no stertorous breathing, neither was pronounced coma present, but there was a certain degree of torpor or somnolence, which he apprehended would culminate in coma. He had not spoken from the time of occurrence of the injury, neither had he taken any drink or food, most probably because of the paralyzed state of the glosso-labial muscles. The large extravasation of blood in the left temporal region, the result of the *contre-coup*, showed that some important vessel, most probably a branch of the Sylvian artery, had been lacerated, and it would appear from Dr. Duncan's statement that the cerebral substance in the Sylvian region was greatly injured. He had no doubt that this part coincided with the foot of the ascending frontal and the posterior part of the third frontal convolution, in which are the motor-centres for the speech muscles and for those of deglutition, etc. The absence of any mark of injury in the vicinity of the fissure of Rolando, accounts for the persistence of muscular power in the arms and legs. He regarded the case as one of much interest, in confirmation of the now so universally admitted doctrine of cerebral localizations.

CASE OF CARIES OF CONDYLES OF OCCIPITAL BONE, DISEASE OF ATLO-AXOID ARTICULATION, CARIES OF ODONTOID PROCESS, AND DISLOCATION CAUSING COMPRESSION OF THE SPINAL CORD AND DEATH.

DR. JAS. F. W. ROSS showed the specimen with notes as follows:

Harry A., æt. 5 years, paternal grandfather and grandfather's brother, father, and maternal grandfather, all died of phthisis. No history of syphilis. As an infant not robust; pale and puny. Had no disease during childhood but scarlatina, strumous keratitis, and post-aural eczema.

In May, 1884, it was noticed that he held his head in a peculiarly stiff position. When the nurse was cutting his hair it was noticed that he could not turn his head freely. He complained of some pain in the back of the neck, and the head was carried with the occipital protuberance towards the back, and the chin held out from the body. This pain became more severe, and he found it necessary to support his head on his hand towards the right side. In November some thickening was noticed over the transverse and spinous processes of the second and third cervical vertebræ. He ate well and did not lose flesh, but his gait was becoming unsteady. About the end of November he fell to the floor, going down by losing the power of the left leg first and falling to the left side. The arms and legs were completely paralyzed, but on this occasion he retained control of sphincters. He had no affection of the speech on this occasion. Remained in this condition for forty-eight hours. He then regained the use of the legs and right arm, but the left one remained almost powerless for some time.

February 14, 1885, he had a second attack, lasting only about four hours. Legs seemed to double under him, and he fell, perfectly powerless. He did not put his arms out to save himself. From this attack on, the least knock would destroy his balance and cause a fall. The speech remained unaffected in this attack. Eczematous patches now appeared on the back and behind the ears, and his general health began to fail. He would occasionally say when swallowing, "I am nearly choked," and required slow and careful feeding. Intellect perfectly clear; was never lost in any attack. Towards March 1, when walking round in the day, he could control his sphincters; but when lying down, the water and feces passed in bed.

March 12 the third attack came on. About 9.30 P. M. he awoke from a comfortable sleep. Had appeared very drowsy in the afternoon, and had no power to assist himself into bed. Usually stepped on a little stool sat on the bed and asked to be laid down, while some one held his head. When awake, he said, "My legs are asleep," "My legs are tired, "My foot might break off," "I can hardly talk," in succession; his speech became indistinct; words were "mumbled;" eyes rolled; nostrils distended; and breathing difficult. Before morning his legs became cramped, and in a few hours were being rigidly flexed on the thighs; the thighs on the abdomen, as in the lithotomy position. He asked to have his legs drawn down, as he could not keep them down. Temperature 100⅔°; pulse 120. Could whistle. Muscles of face and eyes acting normally; hearing, taste, and sight good; sensation in affected limbs variable, sometimes present, at others annulled. Could not distinguish any difference in sensation of the two sides. After this attack he lost complete control of sphincters, urine and feces passing involuntarily. Occasionally regained slight motion in limbs, and eventually died of pulmonary congestion on April 6, 1885.

On post-mortem examination, found the condyles of occipital bone eroded, the atlo-axoid articulation diseased, the cartilage eroded and loosened, the odontoid process gone, and a dislocation of the atlas off the axis to the right side, compressing the cord. No pus was present, and the joint was not filled with any fluid. The cord was marked as if it had been tied with a string.

The following were elected

OFFICERS FOR THE ENSUING YEAR:

President.—Dr. John J. Cassidy.

Vice-Presidents.—Drs. Alexander McPhedran and James H. Burns.

Secretary.—Dr. James F. Bell.

Corresponding Secretary.—Dr. G. B. Smith.

Treasurer.—Dr. Bertram Spencer.

NEW YORK SURGICAL SOCIETY.

Stated Meeting, April 28, 1885.

THE PRESIDENT, ROBERT F. WEIR, M.D., IN THE CHAIR.

DR. R. W. AMIDON, by invitation, read a paper on

ATROPIA IN ETHER NARCOSIS.

DR. G. A. PETERS then presented specimens of

BILIARY CALCULI; PERFORATION OF THE DUODENUM; ABSCESS.

Elizabeth B., æt. 77, of Scotland, widow, was admitted into St. Luke's Hospital January 13, 1885. Family history negative. Three months before admission, she had an attack of sharp pain followed shortly after by a swelling in the right iliac fossa, which was quite painful on pressure. Pain seemed to run towards the median line into the bowels. Was worse at night. She says that on admission the swelling was softer, smaller, and less painful than it has been. On admission an examination revealed a prominent swelling in the right iliac region, tender and distinctly fluctuating, skin normal. Right thigh is readily flexed on abdomen.

January 16.—Patient was etherized and Dr. Abbe incised the tumor and evacuated a considerable quantity of greenish-yellow pus. A number of trabeculæ were broken down. No communication could be detected with vermiform appendix or any internal organ. Antiseptic dressing applied.

April 4.—The discharge has continued, and a probe occasionally introduced discovers only a small cavity beneath the skin, although a free discharge of pus in the daily dressings indicates a deeper secreting cavity. Dr. Peters enlarged the wound, the patient being etherized. After considerable careful searching, the probe dropped into a narrow sinus, downwards and inwards. This sinus was enlarged and a small steel searcher was introduced which could be readily swept round a large cavity, apparently limited by peritoneum towards the median line. The finger in the wound readily detected the lower edge of the right lobe of the liver and to the inside the peritoneum. A rubber drainage-tube, about three inches long, was introduced and stitched to the skin. Edges of the wound were united by a continuous suture of catgut. About a pint of solut. hyd. bichlor. (1 to 2000), warm, was used for irrigating the cavity, and most of this fluid ran out again. An antiseptic dressing was applied. Abdomen became distended and painful.

5th.—Pain and distention much less. Temperature normal. At 6.30 o'clock P.M. she suddenly collapsed and did not respond to free hypodermic administration of brandy. Died of heart failure at 3.30 A.M.

6th.—Autopsy at 2.30 P.M. by Dr. Frank Ferguson. Body is fairly nourished. Rigor mortis is well marked. There is no œdema. There is an incision commencing just in front of the right axillary line, opposite the free border of ribs, and extending downwards and inwards a distance of three inches. This incision communicates with a cavity in the abdominal wall of the right hypochondriac region, measuring, when distended, one and a half inch in length and one inch in breadth, of oval shape. A drainage-tube three inches in length and one half an inch in diameter passes from the incision above described into a compartment within the peritoneal cavity. A sinus extends from the upper limits of the cavity through which the drainage-tube passes and communicates with the gall-bladder, which is filled with biliary calculi. This sinus is two and a half inches in length, and admits a probe one-eighth of an inch in diameter. Section through the abdominal wall in the median line reveals the following conditions within the peritoneal cavity.

The liver and diaphragm are adherent by loose old adhesions, but the anterior edge of the liver is firmly united to the free edge of the costal cartilages in the right hypochondrium.

The ascending colon is buried beneath the liver, and at the hepatic flexure the colon sharply turns upon itself, forming an acute angle, and passes forward and to the left. The portion of the colon thus passing forward is distended and firmly united to the under surface of the liver. The mesocolon of the transverse portion of the large bowel is quite long, and this portion of the colon forms a horseshoe curve, reaching nearly to the brim of the pelvis.

The descending arm of this curve is attached to the spinal column by a broad thick loose plane of omentum. The omentum attached to the transverse colon elsewhere, and arising from the lower border of the stomach, covers in the intestines everywhere, and is attached by firm old adhesions on the right side to the canal of Nuck.

From this it will be seen that there is a compartment within the general peritoneal cavity, limited above by the first portion of the transverse colon, distended and adherent to neighboring viscera, in the median line by the plane of omentum above described; below by the adhesion of the omentum to the canal of Nuck, and the position of the intestines in that region of the peritoneal cavity.

The surfaces of intestine within the peritoneal cavity and the parietal peritoneum are covered by recent lymph. The diaphragm is on a level with the fourth rib on the right side, with the fifth rib on the left side.

There are old adhesions at the apices of both lungs. No fluid in either pleural cavity. The heart is small, brownish in color. There is slight atheroma of the aorta, also of the segments of the mitral and aortic valves. The lungs and spleen are normal.

The kidneys are smaller than normal; their capsules are adherent in places. The markings are not very distinct. There are a few small cysts in the cortex of each organ. Under the microscope the epithelium shows extensive fatty degeneration.

The mucous membrane of the stomach is normal. The pylorus is normal. An inch below the pylorus there are two openings in the wall of the duodenum,

separated by a thin band of mucous membrane, and each opening admits a probe one-quarter of an inch in diameter. The probe readily passes through these openings into the gall-bladder, there being firm union between it and the first portion of the duodenum; thence through the sinus above mentioned into the cavity in the abdominal parietes of right hypochondrium; thence through the incision already alluded to.

The cystic duct is impervious. There are several small calculi in the hepatic duct, whose orifice is normal in size. The gall-bladder contains nineteen calculi of variable sizes, some of them as large as a walnut and presenting several facets.

There is slight increase in the fibrous tissue of the liver. The biliary ducts are dilated moderately. The central vessels are greatly distended with blood, and there are hemorrhages in the liver tissue in places. The mucous membrane of the intestines is normal, except as above stated. The uterus is smaller than normal. The ovaries are atrophied.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, May 21, 1885.

The President, A. Jacobi, M.D., in the Chair.

Dr. T. H. Burchard presented a paper on

OBSERVATIONS ON THE TREATMENT, MEDICAL AND SURGICAL, OF ACUTE PERITONITIS.

He commenced by saying that peritonitis is the most fatal of the acute inflammatory diseases, the mortality being from fifty to sixty per cent.; while if the so-called idiopathic cases are excluded it is from twenty to thirty per cent. higher. He then said that he believed this rate of mortality is unnecessarily high, and that a threefold conception of the disease is essential for its rational treatment, first, as to the cause; second, as to the natural history; and third, as to the natural tendency of the disease.

The text-books give the causes of death as (1) collapse and (2) asthenia. Clinical observation, however, amplifies them as follows: (1) collapse; (2) asthenia, (*a*) from heart failure, (*b*) from respiratory failure; (3) inflammatory changes in the lungs; (4) inflammatory changes in the kidneys; and (5) hyperpyrexia. A knowledge of the cause in any case is essential to its satisfactory treatment. Everything points to the correctness of the proposition that there is no such disease *per se* as peritonitis. He then alluded to the alleged difficulties of diagnosis, and stated that a correct diagnosis is possible even where the difficulties are apparently very great. In proof of this he cited certain instances occurring in his own experience. Sound surgical teachings demand that we should by all means remove the source of irritation, and surgical interference is to be made early whenever there is reason to suspect that any abdominal traumatism is giving rise to the trouble. Dr. Sims, in the last paper which he read before the Academy, had sounded the key-note of the correct treatment in these very halls.

To perfect himself in such procedures, Dr. Burchard said that he had practised to a considerable extent on dogs. The peritoneum is exceedingly tolerant of surgical interference if proper precautions are taken. During the past three years innumerable Tait's operations had been performed, and with very brilliant results. Tait himself had performed no less than forty laparotomies during commencing peritonitis, and all had recovered. In order to show the comparative impunity with which surgical procedures can be undertaken upon the peritoneum, he then quoted a large number of cases from various sources, and completed the list with the report of a case of his own. This was a case of omental abscess which he saw at Saratoga in consultation with the late Dr. F. D. Lente, and in which he performed laparotomy, with the recovery of the patient. Although distinct fluctuation was not obtained, the aspirator was resorted to, but failed to withdraw pus. An incision was then made in the median line from one inch below the ensiform cartilage to the umbilicus, with antiseptic precautions. Fully a gallon of warm carbolized water was injected among the matted intestines, and, iodoform having been lightly dusted over the walls of the abscess, two drainage-tubes were inserted. This case, with the others by different operators which he had collected, made 40 cases in all, with 24 recoveries, or 60 per cent. of recoveries in otherwise hopeless cases.

In contrast, Dr. Burchard reported a fatal case of ulceration of the vermiform appendix. He was called to see the case in consultation, and having made the diagnosis of perforation, advised immediate operation. At this time the condition of the patient was comparatively good, and the operation was refused. Twenty-four hours afterwards he was again called, and was now asked to operate; but by this time it was too late—the condition being hopeless—and a fatal result rapidly ensued.

In speaking of the medical treatment, he said he wished to call attention to special points which were the result of practical observation of the disease. While opium has been rightly considered our sheet-anchor in peritonitis, there are certain conditions in which it is requisite to use it with the greatest possible caution. One of these is the *initial* collapse of the disease, which has been too little studied, and which is a subject of very great importance. To illustrate, he related an instance in which it was very marked, a case of peritonitis resulting from an epididymitis. This collapse is dependent on a vaso-motor paresis, and, therefore, large doses of opium are likely to be extremely dangerous, though in small quantities it can be used with advantage.

The second point to which he directed attention is the perplexing discrepancy between the severity of the pain and the character of the pulse on the one hand, and the fulness of the heart on the other, sometimes met with; and when this is observed, he thought that no dose of opium should be given except in combination with digitalis, atropia, or ammonia, while auscultation of the heart should be frequently resorted to.

The third point is the complication of hypostatic pneumonia from carbonic acid gas poisoning. At this stage a slight overdose of morphia may put a stop to the respiratory function altogether, as there is imminent danger of respiratory failure. Here also small and infrequently repeated doses of morphia guarded with digitalis, atropia, or ammonia, are likely to prove of service.

As to the method of giving opium, he greatly preferred the hypodermic injection of morphia as being the most accurate and in every way satisfactory. In this connection, he related a case in which a patient had passed a hardened mass by the bowels which proved to be a collection of undissolved opium pills, containing enough opium to have killed her if it had all been absorbed. Yet these pills had been obtained at one of the most reliable druggists in the city of New York.

Atropia is unquestionably the one drug in which the most implicit confidence can be placed in the treatment of collapse, and it may be given in doses of from one-sixtieth to one-tenth of a grain, either alone, or in combination with morphia, alcohol, digitalis, or ammonia. There is no rule for the administration of morphia in peritonitis; each case must be a law to itself. Since adopting the hypodermic method of giving it, however, he had been surprised to find how comparatively small an amount is required in a great many cases. In some instances, however, enormous quantities of the drug are called for. In speaking of external applications, he said that poultices are only useful for their sedative effect on peripheral nerves, for the relief of spasm, and in aiding the absorption of inflammatory products, and unless they are required for these purposes had better not be applied, as they have no effect in controlling inflammation. The external application, which is by far the most efficient of all, is the iced-coil, and in this connection he exhibited what he said was the neatest and most convenient apparatus of the kind which he had seen, made by Codman and Shurtleff. The cold is directly efficient by causing reflex contraction of the bloodvessels, and it is also of much service in restoring tranquility. The most satisfactory food that can be employed is peptonized milk, to which additional cream can be added if desired. He spoke next of the treatment of tympanitis, and said that it can sometimes be relieved by the introduction of a vulcanized rubber tube into the intestines by the rectum. Pneumatic aspiration of the intestines is neither philosophical nor safe. Turpentine is to be condemned on account of its liability to increase the danger of the patient by its irritating effect upon the kidneys, and cases have been noted in which its use gave rise to albuminuria. Finally, he said, the successful treatment of peritonitis involves a personal devotion on the part of the medical attendant which comprehends a complete abnegation of self.

DR. A. L. LOOMIS agreed with the author that the first and most important point to be determined before resorting to any surgical procedure in peritonitis, is the finding out of exact cause. Personally, he is one of those who do not believe in such a thing as idiopathic peritonitis. There are three principal kinds of cases: first, the constitutional variety of the disease, which depends on blood-poisoning of some sort; second, cases which result from an extension of inflammation from some viscus to its peritoneal covering; and, third, those depending on ulceration of the intestines, with perforation and discharge into the peritoneal cavity, or upon the rupture of an abscess or cyst of some kind. So far as his experience went, Dr. Loomis said, he had yet to see a case of recovery where there was unquestionally the presence of gases from the intestines in the peritoneal cavity. This is one of the most certainly fatal causes of peritonitis; but it is often very difficult to determine just where the perforation has occurred. If there were the first signs of perforation, with evidences of peritonitis, in the right iliac fossa, it would be generally regarded as indicating ulceration of the vermiform appendix; but he had known the vermiform appendix to be crowded over to the median line, or even to the left of it. He, therefore, did not believe that the portion of the intestine involved can always be determined. If, however, the exact part and the starting-point of the peritonitis can be made out, he could heartily approve of all that had been said in the paper. If in the case of a recent distinguished surgeon of this city an early operation had been undertaken, he believed that there would have been a good prospect of his recovery. Surgeons, he thought, can sometimes learn something from physicians. In every case it behooves the medical attendant to watch his patient very closely, and be prepared for an operation at any moment. Some years ago he had a patient in Bellevue Hospital with a slowly developing peritonitis from an old inflammatory peritoneal band. He urged the late Dr. Erskine Mason to operate in the case, and he called a consultation of surgeons over it; but they all objected on the ground that they did not know where to find the obstruction, although it was certain to him that it was in the small intestine. The operation was not performed, and the patient died of peritonitis. At the autopsy an old cicatricial band was found which could have been parted with the knife without the slightest difficulty. He would, therefore, advise an early operation in such cases, and did not hesitate to say that if to-night he believed that he himself had ulceration of the vermiform appendix, he would seek out a surgeon who would promptly open the abdomen.

In regard to the medical treatment, he thoroughly believed in opium, though with restrictions. Dr. Burchard's points had been well taken, he thought, and he also considered the indiscriminate use of the drug in the early stages of the disease often highly dangerous. Long ago he had adopted the plan of guarding his first dose of opium with atropia. Afterwards it did not make so much difference.

DR. R. F. WEIR said that the arena of the abdominal cavity is that in which surgeons have been obtaining most activity during the last ten years. Dr. Loomis had touched the key-note when he said there is no such thing as idiopathic peritonitis. He would go further than the author of the paper, and say that no patient suffering from peritonitis should be allowed to die without an exploratory incision. Having remarked that there is no more reason for hesitating about operating than in strangulated hernia, he referred to the views of Mr. Frederick Treves, and said there is need of more early interference than had hitherto generally been made in the so-called perityphlitic abscesses. Perforation with collapse is the snag on which surgeons are apt to get caught. In a traumatic case they cannot tell whether this collapse is due to the entrance of gas into the peritoneal cavity, or results from hemorrhage. Here came in the value of exploratory incision, and in 94 exploratory incisions Tait had had only 3 deaths. After such an incision is made, it can be decided whether to proceed further or not, according to the condition of affairs discovered. In conclusion, he re-

marked that the operation in acute peritonitis dates further back than Mr. Treves had stated in his recent paper.

The President said that the question was whether, in every case of perityphlitis, the operation is called for. All knew of cases in which the perityphlitis remained local, and the patient recovered. There were also other cases in which, although general peritonitis set in, the patients recovered; and, therefore, it is a question of great responsibility whether to operate or not. Very recently he had seen a boy of 15 who had all the signs of perityphlitis. Although the question of operation naturally presented itself, it was deemed advisable to wait, and the patient was treated with morphia, atropia, and plenty of ice. The peritonitis afterwards became general, but the symptoms were not very urgent. Again he hesitated to operate, because the general condition was such as to justify waiting a little longer, although it was certainly a very difficult question to decide. He had, however, seen a number of similar cases recover.

He had found that where a case of peritonitis became well developed rapidly, the patient had almost invariably had one or more previous attacks. He would be inclined to lay down the rule that when perforation and peritonitis set in very suddenly, and the trouble extends rapidly, the operation ought to be performed; but if the process is a slow one, it is advisable to wait.

Dr. Loomis said that when the first sign of perforation occurs, is the time to operate.

The President said that the first sign of perforation is often the first sign of any kind.

Dr. Loomis said that he could not agree to this statement, and believed that when the first sign of perforation is noticed, the surgeon should, at all events, be prepared to operate. In the case before referred to by him, the autopsy showed that for the past two or three days the peritonitis had been local. As to the history of repeated attacks of peritonitis, he thought that if an operation had been performed in the first, there would not have been any return of the trouble.

Dr. Burchard said that in six cases of typhlitis which he had seen ending fatally (in five of which he made autopsies), it was a fact that in every one of them there was a history of one or more preceding attacks. If he saw a patient in collapse or partial collapse, with a history of previous attacks of typhlitis, he would say that there was no perforation. The rapidity with which collapse develops also appears an indication as to whether there is perforation or not.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, May 18, 1885.

The President, Charles A. Leale, M.D., in the Chair.

Dr. E. G. Janeway then presented

SPECIMENS OF ULCERATIVE ENDOCARDITIS AND OF ATRESIA OF THE LIVER.

The latter specimen was from the first of two additional cases to which he referred at the end of his paper on Abscess of the Liver, published in the *Transactions of the New York State Medical Association*. The origin of the trouble was probably the pressure of the elbow against the side in lifting a heavy stove and carrying it upon the shoulder. Three aspirations were resorted to, and a large quantity of chocolate-colored fluid, in which there were very few pus cells, withdrawn. Twenty-two ounces the first time, sixty-four ounces the second time, and eight ounces the third time. Afterwards the abscess burst through the lung, and an incision was made in the ninth intercostal space. The patient died from exhaustion, and during the latter part of life there was noticed some dulness over the upper part of the right lung, with bronchial breathing. At the autopsy there was found waxy degeneration of the liver, with some peripheral fatty degeneration also. There was an enormous abscess of the right lobe, the walls of which were very firm on account of the waxy character of the hepatic tissue. There was also found perioesophageal and peritracheal suppuration, together with localized empyema in the upper lobe of the right lung, and extensive ulceration of the large intestine.

Dr. A. Flint said he should like to ask Dr. Janeway whether he considered that the intestinal ulceration had any pathological connection with the abscess of the liver, and, if so, whether he was inclined to the opinion that in such cases the interstitial ulceration was consecutive to the hepatic abscess, or whether the association was merely one of coincidence.

Dr. Janeway said there are two sets of cases in which intestinal ulceration is seen in connection with hepatic abscess. In the first, the cause of trouble is dysentery, or other similar disease; but when this is the case, there are generally multiple, though small, hepatic abscesses. In the second, as in the present instance, he believed that the ulceration of the large intestine is consecutive, and probably dependent on the depressed state of the general health and the presence of a septic process in the system. The condition is analogous to that in puerperal fever.

Dr. Herman M. Biggs, who has recently returned from Berlin, where he has been pursuing a course of studies under Dr. Koch, gave a

DEMONSTRATION OF THE THREE COMMA-BACILLI.

The resemblance of the comma-bacillus of sporadic cholera, as described by Finkler and Prior; of that of the mouth, as described by Lewis and Müller; and of that found in stale cheese by Denecke, to the true cholera comma-bacillus, he said, had given rise to much confusion. But similarity of morphological appearances did not constitute identity; identity of growth, culture, and function is essential. Because the English Cholera Commission did not recognize this, their work was practically without value; and even Klein admitted that he had found the comma-bacillus of Koch in greater or less number in all cases of cholera. Dr. Biggs then proceeded to point out the distinctions between the various kinds of comma-bacilli, and in speaking of the mouth bacillus, he stated that it took the followers of Koch four months to isolate it; but at last it was done by Prof. Müller. This was a matter of vital importance, for if the identity of the two had been proven, all of Koch's work would have become valueless. He exhibited cultures of the three comma-bacilli, and, in conclusion, remarked that in the mere matter of diagnosis, Koch had certainly made a very valuable contribution to our knowledge of cholera. The etiological

relation between the microbe and the disease was not at present proven. There was one point yet lacking in the demonstration of this, viz., the test of inoculation; and it was quite possible that this never would be established, since, as far as we are able to determine, there was probably no animal that was susceptible to cholera. The so-called inoculation of guinea-pigs by means of injections into the duodenum, as practised by Rietsch and Nicati, was unsatisfactory, and could not be accepted.

Dr. A. Flint, Jr., exhibited, at the request of Dr. Wm. H. Greene, of Philadelphia, an

APPARATUS FOR DETERMINING THE PROPORTION OF UREA IN THE URINE.

(See page 597.)

A demonstration was then made, by the maker, of a

NEW CLOSED CIRCUIT "GRENET BATTERY" AND INCANDESCENT LAMP, WITH UNIVERSAL ILLUMINATORS FOR DARK CAVITIES.

Also the combined electric light and tongue depressor for laryngoscopic examinations, together with improvements on the Grenet battery. The presentation of the apparatus was prefaced by a few remarks from The President, who said:

Two weeks ago, in the examination of one of the dark cavities of the body, he used for illuminating purposes the small incandescent electric lamp. It proved so satisfactory, and combined so many recent improvements, that it has been deemed worthy of a special notice and of presentation this evening to the Association. The Universal Illuminator is an electric lamp, attached by a ball-and-socket joint, either to a long or a short handle, not much thicker than an ordinary penholder, being so small that it may be passed through an opening in the thorax after collapse of the lung, and the removal of the pus in empyema, to illuminate all the surrounding parts. It may be used in the rectum or the vagina, and also after gastrotomy and cystotomy in searching for localized disease, or a hidden foreign substance. In the abdominal cavity it may be utilized in seeking for the source of a concealed hemorrhage or for an injury to a fixed and obscure part.

For the mouth, throat, nares, and larynx, a combined tongue depressor has been attached, which is easily held in the left hand, while the right is free to manipulate. The improvements on the Grenet battery are the gain in space by the use of square jars, the use of hard rubber caps replacing those of metal, and the increase of the exposed surface by the use of corrugated carbons.

NEWS ITEMS.

BALTIMORE.

(*From our Special Correspo*

Isolation of the Temperature [illegible]ans of the Muriate of Cocaine.—Sor[illegible]Dr. William Warfield, of this city, an [illegible]e Eye Department of the Baltimore Eye, [illegible]t Charity Hospital, observed in a patien[illegible] surgical operation (under the anæstheti[illegible] cocaine) by Dr. Russel Murdoch, that wl[illegible] bility of the cornea and conjunctiva was abolished, the impact of the instruments was felt as a distinctly *cold sensation*. Acting upon this hint, Mr. H. H. Donaldson, of the Johns Hopkins University, examined the eyes of two patients at the hospital with reference to this singular observation, and found that, when the eye was completely insensitive, a fine metal point, alternately heated and cooled in water—the temperature being 10° C. for the cold and 40° C. for the hot—when pressed against the conjunctiva and the patients directed to state their sensations, the answers were all correct; heat and cold being readily distinguished.

Struck with the original observation of Dr. Warfield, Dr. John N. Mackenzie made a series of experiments with regard to the isolation of the temperature sense in the oropharyngeal cavities and nasal passages. Six patients were taken for the experiments. The uvula and soft palate, and afterwards the nasal passages, were first bathed in a four per cent. solution of the drug. When anæsthesia of the parts was complete, a silver probe, which had been previously immersed in a mixture of ice and salt, was carried over the parts previously rendered insensible to contact and pain, as tested in various ways. A distinct sensation of cold was in every instance complained of. The opposite extremity of the same probe was next heated over the Argand burner of a lamp used for laryngoscopic purposes, and in its heated condition made to impinge upon various spots in the anæsthetized area. While absolutely no pain was felt by any of those experimented upon, there was a marked unanimity of the answers, given voluntarily, in regard to the sensation of heat. In three of the cases, the application of the heated probe was followed by an eschar, and in one a pretty severe pharyngitis developed, yet at the time of application no pain was felt, though the temperature sense remained intact. It may be incidentally remarked, that none of the patients was aware of the purposes of the experiment or the previous preparation of the probe.

These observations are of considerable interest in view of the fact that, while recent physiological research has rendered it probable that the sensations of heat and cold are distinct from those of mere contact and pain, it has heretofore been impossible to demonstrate the fact by the complete isolation of the temperature sense. It is accordingly obvious that its separation from the other senses may open up in the future a fruitful field of physiological investigation.

MONTREAL.

(*From our Special Correspondent.*)

Board of Health and Sanitary Affairs.—The Health Department of this city has been in rather a demoralized condition of late. Owing to want of coöperation on the part of his Committee the Chairman of the Board of Health resigned; then the Medical Health Officer became unfit for his duties and retired. The vaccine furnished by the public vaccinator was found impure and unfit for use, so the whole stock of vaccine was destroyed. In addition to these misfortunes, it is found that all the lanes in the city after the winter's accumulation are in a horribly filthy state, and the public scavengers are making but the feeblest efforts to put them in a cleanly condition. The Mayor brought these

various matters up before the Common Council, who, after refusing to accept the Chairman of the Health Board's resignation, determined to make some effort to put the city in a proper sanitary condition before we are surprised by cholera.

A new medical health officer has been advertised for, salary $2500 a year.

A medical advisory board has been formed, consisting of a representative from each of the four medical schools (two English and two French), whose services are unpaid. The scavenging contract is also to be investigated, and the lanes to be immediately cleaned.

The salary of the medical officer of health is not sufficient to tempt a good man, who must be thoroughly acquainted with French and English; and but little work, I fancy, can be got our of our unpaid advisory board. However, the newly elected mayor seems determined to wake up the health department, and fulfil the promises made to his electors in spite of national and religious prejudice.

Since writing the above we are pleased to state that the Chairman of the Board of Health has withdrawn his resignation, and intends to get his Committee, as well as the city, into somewhat better shape.

New cases of smallpox are still of daily occurrence, and but little effort is being made to vaccinate the masses.

A fatal case of glanders in a young man occurred at the general hospital here last week.

SOCIETY MEETINGS.—The Wisconsin State Medical Society meets at Milwaukee on Tuesday, June 2d.

The Ohio State Medical Society holds its annual meeting at Dayton on Wednesday, June 2d. And the Ontario Medical Association meets at London on the same day.

MEDICAL AND CHIRURGICAL SOCIETY OF MARYLAND.—At its late meeting, the Faculty voted a change in the Constitution by the substitution of the word "person" for "gentleman" in the article relative to applications for membership. This change was made, as was explained by Dr. J. Edwin Michael, the mover of it, in order to have the way open to receive women practitioners, if otherwise eligible for membership.

UNIVERSITY OF THE CITY OF NEW YORK.—Dr. Lewis A. Stimson has been elected Professor of Anatomy in this institution, to succeed the late Professor Darling.

LYONS SOCIETY FOR THE PROTECTION OF CHILDREN.—This Society has offered prizes of gold medals, for the years 1886 and 1887, for the best paper on the following subjects:

1. The different methods of vaccination; the age at which vaccination is best performed; and the prejudices to be combated in reference to the operation.

2. The study upon the influence of occupation upon pregnancy in women, the progress of pregnancy, and the vitality and health of children.—*Gazette Médicale de Paris*, April 11, 1885.

THE ROYAL ACADEMY OF MEDICINE OF BELGIUM has submitted the following subjects for theses; the most meritorious of each of which will receive the prize indicated:

1. The determination by new experiments and applications the degree to which spectral analysis may be realized in the researches of forensic medicine and the medical police. Prize, $300. Closes April 1, 1886.

2. The experimental determination of the influence which desiccation exerts when employed as a means of conserving the simple vegetable medicaments. Prize, $120. Closes July 1, 1885.

3. The physiological effect of sanguineous depletion, either local or general; its indications and contraindications in the treatment of disease. Prize, $300. Closes December 31, 1885.

4. Description and critical review of the different methods of surgical dressing and of the antiseptic treatment of wounds and surgical affections. Prize, $120. Closes January 16, 1887.

5. The study of erysipelas, *charbonneux* or *rouget*, of swine, as relating to its causes, manifestations, lesions, prophylaxis, and treatment, and to establishing eventually its relations with carbuncular bacteridian or bacterian diseases. Prize, $120. Closes January 15, 1887.—*L'Union Médicale*, April 18, 1885.

NOTES AND QUERIES.

PENNSYLVANIA COLLEGE OF DENTAL SURGERY.

At a special meeting of the corporators of the Pennsylvania College of Dental Surgery, the following resolutions, presented by the Committee appointed to report them, were unanimously adopted:

Whereas, Following quickly the decease of our late worthy President, Dr. Samuel D. Gross, we are now called upon to mourn the death of our fellow member, Dr. Ellerslie Wallace;

Resolved, That, aware of the helpful, manly coöperation of Dr. Wallace in the work of dental advancement, the Pennsylvania College of Dental Surgery, of which he had long been a corporator, desires to express its respect for his memory and character;

Resolved, That we hereby tender to his family our sincere sympathy and condolence.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MAY 19 TO MAY 25, 1885.

DEWITT, CALVIN, *Captain and Assistant Surgeon.*—Ordered for duty at Newport Barracks, Kentucky.—*S. O. 107, Department of the East*, May 22, 1885.

DELOFFRE, A. A., *Captain and Assistant Surgeon.*—Relieved from duty at Fort Sissiton, Dakota Territory, and ordered to Fort Totten, Dakota Territory.—*S. O. 52, Department of Dakota*, May 14, 1885.

BRECKEMIN, LOUIS, *Captain and Assistant Surgeon.*—Ordered for temporary duty at Fort Omaha, Nebraska.—*S. O. 44, Department of the Platte*, May 18, 1885.

MUNDAY, BENJAMIN, *First Lieutenant and Assistant Surgeon.*—Relieved from duty at Fort Klamath, Oregon, and ordered to Fort Walla Walla, Wyoming Territory.—*S. O. 72, Department of Colorado*, May 12, 1885.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE WEEK ENDING MAY 23, 1885.

MEAD, F. W., *Passed Assistant Surgeon.*—Detailed as member of Board for Physical Examination of candidates for appointment as cadets in the Revenue-Marine Service, May 18, 1885.

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the NEWS *should be addressed to No. 1004 Walnut Street, Philadelphia.*

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. XLVI. SATURDAY, JUNE 6, 1885. NO. 23.

ORIGINAL ARTICLES.

A CASE OF FRACTURE OF THE BASE OF THE SKULL, WITH LOSS OF BRAIN SUBSTANCE THROUGH EAR; RECOVERY.[1]

BY W. H. WILDER, M.D.,
OF CINCINNATI

ON the morning of November 30, 1883, a well-developed man, about thirty-eight years of age, was brought into the Cincinnati Hospital in a semi-unconscious condition, unable to remember the cause of his injury or to give any account of himself. It was only by repeated and persistent inquiry that his name could be obtained, and after giving this he would immediately relapse into a drowsy stupor, from which he was not easily aroused. There was a slow but continuous flow of blood from the left ear. Lodged in the concha and in the external auditory canal, a small mass of white tissue, apparently nervous in character, was found; and on the pillow lay another small quantity, similar in character, which had escaped from the ear. These specimens, aggregating about one drachm in weight, when subjected to a microscopic examination, revealed the presence of nerve fibres, myeline drops, and what appeared to be roots of nerve cells; pus cells were abundant in the field. The respirations were full, numbering 20 per minute; temperature 99½° F., pulse 80. The pupils were active and responded normally to the stimulus of light. No perceptible paralysis of the face or extremities existed.

In the evening of the same day, the condition of the patient was unchanged; the same stupor prevailed and intelligence was no more manifest when he was aroused. The character of the discharge from the ear had changed from that of blood to a clear serous fluid with a slightly sanguineous tinge, which escaped so persistently and continuously that it was necessary to change frequently the cloths which were applied to the part, and supply him with a dry pillow. Pulse 80, temperature 99½°: Breathing quiet and natural; urine had been passed in bed; bowels had not been evacuated.

Dec. 1.—Pulse 80, temperature 99°, respiration 20. General condition was unchanged. The discharge of fluid from the left ear continued. After an enema of castor oil and water the bowels had been freely evacuated. Patient partook of some milk and beef essence during the day; in the evening he became very restless, and gr. xv chloral and gr. xxx bromide of potash were administered.

2d.—Pulse 80, temperature 98°, respiration 20. General condition remained the same; he breathed quietly through the nose unless he was aroused, when the breathing was through the mouth with puffing of the cheeks, the nearest approach to stertorous breathing that had been noticed. A considerable obliteration of the folds of the left side of the face, and a deviation to the right side indicated a facial paralysis of the left side which had appeared in the night. He could not be induced to protrude his tongue or to respond to questions, but partook of some nourishment in the form of milk and beef essence. Pupils were active and symmetrical. Urine withdrawn by the catheter. No paralysis of the limbs existed at any time. The fluid that continued to escape slowly from the ear was almost colorless and perfectly clear.

3d.—A slight improvement was noted; he became more rational, was more easily aroused, took notice of objects around him, and recognized his wife. When requested he protruded his tongue, which did not deviate towards either side. He complained of headache. The dose of potassium bromide and chloral, which had been administered every evening, was discontinued, and gr. j calomel given every three hours, and as much beef essence and milk as he would take.

5th.—The discharge from the ear had become very slight and resembled water. Pulse 88, temperature 98½°. In the evening he was quite restless but brighter. Facial paralysis of the left side continued. Micturition normal; bowels constipated.

6th.—The patient's pulse was weak; he had passed a very restless night, having been delirious at times and having frequently attempted to leave his bed and the room in which he was confined. It was necessary to secure him and to place him under the influence of chloral. The calomel was discontinued and one-half ounce of whisky was ordered to be given every four hours. Pulse 84, temperature 98°. In the evening he was again improved, and much more rational and intelligent. Pulse was stronger.

7th.—He was much brighter and had slept well. No delirium. Micturition normal, bowels constipated. No discharge from the ear.

From this time he began to improve steadily, rationality returned slowly, and he gradually regained his memory and intelligence, but was unable to recount the circumstances attending his mishap. The facial paralysis of the left side had disappeared by December 10th, and a purulent offensive discharge from the left ear was noticed.

An examination of the ear, December 11th, revealed the fact that the superior wall had been pushed downward to such an extent as almost to close the canal; a fissure could be seen in the membrana tympani extending from the upper part down to the umba. The hearing of the affected ear was somewhat impaired on account of the acute otitis media that was present.

The patient was discharged on December 12th, at

[1] Read before the Cincinnati Academy of Medicine, April 20, 1885.

the urgent request of friends, and passed from my notice, although subsequently very correct information was received from his wife concerning his mental and physical condition. The time which he spent at the hospital is a blank to him, but his memory is now so much improved that he remembers some important incidents connected with his injury. He declares he was struck on the head by some one whom he did not see, and thinks he was dragged to a railroad track by the same person. His intellectual faculties have all improved, but at times his speech is rambling, and he is inclined to talk incessantly of past events. For two or three months after leaving the hospital, he experienced severe vertigo, especially when performing suddenly any lateral movement. Ptosis of the left eye was noticed about two months after his discharge, and occasionally he has some pain in the left side of the face. No paralysis of the face is present now.

This case affords several interesting points for consideration, chief among which is the escape of brain substance from the ear. There was no doubt as to the nature of the injury after the examination of this substance; but even before this, the copious hemorrhage from the ear dispelled the thought that the blood might proceed from a ruptured membrana tympani.

The hemorrhage from the ear must be profuse, and continuous for a considerable length of time to afford certain evidence of the existence of fracture involving the petrous portion of the temporal bone. On the other hand, the absence of this sign, hemorrhage from the ear, does not necessarily indicate absence of a fracture implicating the petrous portion of the temporal, and even opening up the cavity of the tympanum; for it is well known that in such cases blood may pass into the mouth through the Eustachian tube when the injury has not caused a rupture of the membrana tympani.

The cases of fracture of the petrous portion of the temporal bone with the escape of cerebro-spinal fluid and brain substance are rare, and of four cases that were found on record only one terminated successfully.

Guillemeau, in 1779, reported, in the *Journal de Medicin.*, tome iii. p. 454, a case of fracture of the base with protrusion of brain matter through the ear.

De Gislain, in 1843, recorded, in the *Annales de Chirurgie*, tome viii. p. 229, a similar case of profuse hemorrhagic flow from the ear, together with particles of brain substance.

Mr. Prescott Hewett mentions a case that he saw in St. George's Hospital in October, 1856. "The accident was caused by a fall from a great height;" and in the blood that flowed profusely from the left ear, were mixed minute portions of brain substance, and two or three pieces of the white substance of the brain as large as peas were lying in the meatus externus. These cases were all fatal.

Surgeon Lockwood, U. S. N., reported, in the *Am. Journ. Med. Sciences*, for April, 1859, a case of recovery after a severe injury of this kind. "The patient, a seaman, æt. 30, fell from the spar to the main deck of the ship and struck fairly on the vertex." There was copious and continuous bleeding from the right ear and nose, the quantity of blood that escaped being estimated at fifty or sixty fluidounces. With the blood were several small pieces of brain matter. On the following day a fluid of watery character was flowing from the ear, and several particles were found in the meatus which, on examination, proved to be brain matter. The patient was comatose for two days, and then became delirious, but in five weeks after the date of the injury he had recovered and returned to his duty.

The cases reported, in which portions of brain matter have escaped from the vault of the skull after severe injury, are much more numerous than the class of injuries just considered, in which loss of brain substance occurred through an opening in the base; and the liability to a fatal termination in accidents of the former class is much less than in the latter, for the reason that the seat of the injury is much further removed from the important and vital centres lying at the base of the brain. At least 112 accidents of this kind, varying in severity, have been reported, and of this number 81 recoveries were recorded.

The continuous discharge of a clear, watery fluid (the cerebro-spinal fluid) from the ear was formerly regarded as the most unfavorable sign that could accompany injuries of the base of the skull; indeed, some observers (notably Robert, who had made considerable study of such injuries) accord to this symptom a fatal significance. This opinion, however, has been proven to be incorrect, for several cases of recovery, after such an accident, have been recorded. In the case recorded by Lockwood, in 1859, to which reference has been made, the discharge of a clear, watery fluid for several days, constituted a very important and interesting feature of the case. In the present case the hemorrhage from the ear was followed by a serous discharge, changing to a watery discharge, which continued slowly for several days. It seems probable, that the fluid was the cerebro-spinal fluid escaping from the subarachnoidean space.

It is interesting to consider the effect of this injury upon the seventh nerve.

The fact that facial paralysis of the left side did not occur until two days after the accident, furnishes conclusive evidence that the integrity of the nerve was not destroyed by the force that produced the fracture; and it also proves that the temporary impairment of function was due to the subsequent pressure upon the nerve, somewhere in its course through the aqueductus Fallopii, either by an effusion or blood clot within the tympanum.

That the pressure was not upon the nerve before entering the internal auditory meatus is evidenced by the fact that the hearing of that side was unimpaired.

In 13 cases of fracture of the petrous portion of the temporal bone, recorded by Mr. Pick, paralysis of the seventh nerve existed in 10. In 8 of these 10 cases, the paralysis did not appear until some time between the second and sixth day; and in the other 2 cases it was present at the time of admission to the hospital.

Fracture of the base of the skull was formerly regarded as a more fatal injury than modern statistics teach us to believe. The records of the *Medical and*

Surgical History of the War of the Rebellion furnish interesting statistics of fractures of the base. One hundred and thirty-five cases of recovery from gunshot fractures of the base of the skull are reported. These cases were collected and reported by Dr. Lidell in the *American Journal of Medical Sciences* for April, 1881. Of this number 49 were in the anterior fossa; 48 in the middle fossa; 6 were cases of fracture of the occipital bone and injury of the posterior lobes of the brain; 27 involved the middle and anterior fossæ; and 5 included the middle and posterior, fracturing the occipital bone.

In the case under consideration the injury to the skull must have existed principally in the middle fossa. There was a fracture, probably implicating the anterior surface of the petrous portion of the temporal, somewhere between the eminence for the superior semicircular canal and the line of union of the squamous and petrous portions. This seems to be indicated by the fact that the superior wall of the auditory canal was pushed downwards, so that the canal was partially occluded. The middle lobe of the left side of the brain was probably wounded in the neighborhood of the middle temporal or inferior temporal convolution; and from this part the extruded particles of brain substance must have escaped. The line of fracture *may* have passed into the posterior fossa, involving the posterior surface of the petrous bone; but of this there was no manifest evidence.

THE CHAMBERLAND FILTER.

By ALFRED C. GIRARD, M.D.,
ASSISTANT SURGEON U. S. A.

The necessity of "sterilizing" the water we are using for dietetic purposes in time of cholera becomes more apparent, the more the proofs are accumulating that the active principle of the disease is closely connected with a germ carried in a liquid medium to the intestinal tract.

Practically, it matters not whether this is Koch's comma-bacillus, or Emmerich's spirillum, or Finckler and Prior's microbe, or a spore or several combined, whether they cause fermentation or disorganization, or whatever their mode of killing may be supposed to be. It cannot be denied that the weight of evidence in favor of the bacterial origin of cholera is becoming every day stronger, and pointing the way in which we may protect ourselves from the infection; it is not my purpose here to discuss the arguments pro and con, the remarks submitted in this paper are mainly intended for those who are more or less convinced of the danger originating in the dietetic use of water containing any of the minute organisms leading to the disorder.

Many different contrivances have been invented and patented for the purification of water, but none have succeeded in doing more than either remove the coarser elements or chemical contamination. The inventors did not know or appreciate the exceedingly minute enemy which had to be "kept out," and naturally failed to insure "sterility," a term which, in this meaning, is probably unknown to most of them.

The remedy had to originate from the same laboratory and the same brains which have enlightened us on the nature of other diseases of the same order: from a man who, during a series of years, has become intimately acquainted with the biology of these germs.

While visiting Prof. Vallin's laboratory of hygiene, at the Hospital of Val-de-Grâce, in Paris, last November, under the polite guidance of Prof. Richard, the assistant Professor of Hygiene, I had my attention drawn to several filters which had been exhibited at the International Health Exhibition at London, and were then being tested.

A filter, invented by Mr. Chamberland, Pasteur's director of laboratory, appeared to me nearer the ideal of practical sterilization than anything I had ever seen. I was looking for something of the kind. Cholera becoming epidemic in Paris,—the prospect of the disease soon reaching the shores of America —my sojourn in Germany in the midst of the heated discussions on Koch's discoveries—everything had prepared my mind to seize upon the possibility of a method of protection. I am a believer in Koch, and naturally anything offering practical exclusion of disease germs struck a ready chord.

Since then I have seen no reports of that filter. I was interested in the preparations made in this country to keep off the cholera, and, finding that they mainly tended to prevent its introduction, and lessen its chance for propagation, it appeared to me that we are still helpless in case it should lodge in our midst.

The water supply of our large cities is the result of drainage of a large surface which, sooner or later, must become infected. We cannot disinfect this water with chemicals, for such substances taken into the system in sufficient quantities will seriously threaten our own lives. Boiling is very properly recommended, because, as the Committee on Disinfectants of the American Public Health Association justly says—the boiling temperature maintained for half an hour kills all known disease germs.

But why should we use boiled germs when we can exclude them? Will our hotels supply their guests with boiled drinking water when ice is dear? Will every private family be able or care to exercise the necessary watchfulness over the cook when the hydrant is so handy? This is only an outline of what we are to expect. Carelessness of prevention against disease is the rule, and the only rational mode of guarding against infection through drinking water is to provide an apparatus requiring no watchfulness or skill, and making the use of purified water as convenient as the ordinary mode of supply.

This seems to be offered by the Chamberland filter.

Remembering the impression it made on my mind, when I first saw it in Paris, and unable to find any mention of it in any literature at my disposal, I wrote to Prof. Vallin, whose name is known throughout the scientific world as an eminent hygienist, requesting such further information as he might be able to give me, in order to have the matter in a sufficiently positive and credible shape to be laid before the profession in this country. I will quote below from his answer, which, however, really is the

essence of an article he wrote on the filters of the London Health Exhibition (*Revue d'Hygiène et de Police Sanitaire*, July 20, 1884), and of which I shall make use in this paper.

A description of the apparatus should now precede any further argument on the subject, as it will be *prima facie* evidence to every thinking mind that its claims are deserved, and thus awaken sufficient interest in the reader to persevere in the reading of this article.

The principle of the filter is to force the water through porcelain porous enough to allow the passage of the liquid, but barring that of even the minutest germs.

The apparatus consists of one or more porous porcelain cylinders, set in metallic tubes of about two inches diameter, and twelve inches length, which are in communication with the water supply,—the whole being encased in a metallic frame attached to a tap. The water enters the interval between the porcelain and metal tubes, and percolates through the walls of the former, which drain into an outlet pipe. All there is needed is a pressure of at least two atmospheres (a difference of level of about sixty feet). With this each tube will allow the percolation of about a quart an hour, and with the apparatus I examined, and which, probably, is the one intended for practical use, containing six tubes, a daily supply of about 36 gallons of biologically pure water can be obtained.

A few experiments related here will fitly illustrate the thoroughness of filtration:

Putrefying liquids filtered in this manner into a sterile receptacle have been preserved indefinitely without change, when further access of bacteria was prevented.

Pasteur, in his experiments to establish that the virus of anthrax was due to the germs contained in the infectious liquids, filtered them through porcelain, the filtrate was injected under the skin of guinea-pigs without in any manner affecting their health, while a drop of the unfiltrated liquids caused in every case death in twenty-four hours.

Chamberland correctly argued that what could be done with a few grammes of virus, could be achieved with a large quantity of water, it being only a question of size of apparatus.

Another convincing experiment was made by Professors Fol and Dunant, of the University of Geneva, (March, 1885, of the above mentioned *Revue*). In their examinations of the water of Lake Geneva, on the effect of prolonged repose of the water upon its biological contents, they found a cubic centimetre of the water which most frequently was stirred up to contain 150,000 germs. Being grafted on meat gelatine, one-tenth of a cubic centimetre of this water produced 5300 colonies at a temperature, too, when the gelatine remained solid, and only 4 per cent. of the germs multiply.

This water was filtered through the Chamberland filter, and, the gelatine, treated similarly, exhibited not a single colony.

These examples ought to suffice as a proof that the filter will accomplish the desideratum. It is true that it does not purify the water from soluble admixtures; but in the water furnished by the systems of our various cities, and, having the necessary pressure, this source of pollution, if it exists, is not the cause of the diseases originating from bacterial infection.

Prof. Vallin says: "M. Chamberland's filter realizes, therefore, with extreme simplicity what yesterday still appeared to be ideal; it provides a water entirely freed from germs; it could not have arrived at a more opportune moment; it cannot be too much recommended."

As to any objections to the practical working of the filter, they are easily answered. In order to clean the apparatus it is sufficient to unscrew the bottom of the metallic tube, the external surface of the porcelain cylinder is then found covered with a thin layer of detritus; the tube is taken out, washed in boiling water, or exposed to the flame of gas, and everything works as well as if it was new, without expense or delay.

As to the defects of the filter I cannot do better than quote Prof. Vallin's letter:

"The Chamberland filter is of great service, but has also defects. It requires great water pressure, at least two atmospheres, about 22 metres of difference of level. It filters slowly, and it is necessary to place under it a glass receptacle, holding 25-50 litres, with a stopcock, to provide always for a good supply.

"The filtration is thorough, and no protoörganisms, even of the smallest kind, can pass, provided the tubes of porcelain have been properly tested, otherwise they may have fissures imperceptible to the eye, but sufficiently large to permit a free flow of water. Sometimes the tubes are faulty, on account of being too porous, so that the microscopic germs can pass through. . . . .

"I told Mr. Chamberland he should not allow any apparatus bearing his name to be sold without their first being tested by the manufacturer. I believe he will watch the manufacturer carefully, for you know that Mr. Chamberland is a very distinguished savant; he is the director of Pasteur's laboratory, and has been associated with Pasteur in most of his researches on anthrax and hydrophobia; he is Professor of Physics, Doctor of Sciences, and graduated among the first from our superior Normal School."

I have drawn the attention of a New York importer to the advantages of the Chamberland filter, and doubtless a number of these filters will soon be brought to this country and exhibited. As to their cost, I know only that the porcelain tubes are about three francs apiece in Paris. Whatever it may be here, it will probably be within the means of those who believe that it will protect their lives.

To recapitulate, I may safely assert that, in his filter, Chamberland has supplied the civilized world with a convenient apparatus, requiring no particular care or ingredients and providing, with the usual water pressure of hydrants, a sufficient supply of biologically pure water.

Fort Porter, Buffalo, N. Y.

OBSERVATIONS ON THE USE OF BOROGLYCERIDE.

By S. MAC. SMITH, M.D.,
resident physician at the Germantown Hospital, Philadelphia.

In the wards of the Germantown Hospital and Dispensary this comparatively recent compound, "boroglyceride," has been employed with such decided success and encouragement that, perhaps, to

state some observations on the use of same will be of interest to the professsion.

Boroglyceride is a marked hæmostatic, antiseptic, deodorant, and germicide, and prevents and arrests fermentation and putrefactive changes.

When applied to wounds, mucous membranes, etc., there is usually experienced a smarting sensation, which quickly subsides; it frequently renders a previously painful wound absolutely painless.

If, after minor amputations, the flaps be turned back, a 25 per cent. solution applied freely, and the edges of the wound coaptated nicely, capillary hemorrhage will be found to have been arrested and granulations promoted, but usually union by first intention is seen.

In anaplastic operations this agent will be found invaluable; a recent operation performed at the hospital by Dr. L. Webster Fox, will illustrate its value:

Daniel E., aged seventy years, had an epithelioma involving the entire upper eyelid; the tumor being removed, it was replaced by a large skin-graft taken from the patient's arm, and was dressed at various times with boroglyceride. When examined, on the morning of the fourth day, it was found that union by first intention, with little or no pain, nor suppuration, was the reward of this treatment; and, at the end of twenty days, the patient was discharged from the ward with a commendable eyelid.

Chronic ulcers, which have resisted the ordinary mode of treatment, have readily yielded to applications of a 50 per cent. solution of boroglyceride, being first washed with alcohol.

Have had several chronic suppurating buboes, which, the patient claimed, resisted all manner of treatment for about two years, but which promptly yielded to boroglyceride 50 per cent. solution and alcohol, used in the manner stated above.

In cases of gonorrhœa and gleet, this agent, with carbolic acid, used as an injection, will be found quite efficient and reliable. Out of ten cases treated recently, eight are pronounced cured, and the remaining two marked progress; also, where the urethra is subjected to irritation from passing a bougie, sound, etc., a weak solution used as an injection will be beneficial to allay the inflammation thus produced.

Gynecologists will also find this agent of much value in metritis, endometritis, vaginitis, leucorrhœa, etc. Boroglyceride, with carbolic acid, will render valuable service, and frequently accomplish the desired result with greater rapidity than the ordinary agents. A tampon can be left in the vagina, "first being moistened with boroglyceride" for six or eight days without becoming offensive.

Most inflammatory diseases of the skin, especially those of an itching or burning nature, are greatly benefited by this therapeutic agent.

In cases of inflammation of the throat, as tonsillitis, pharyngitis, etc., a 50 per cent. solution, diluted about one-half with water, and carbolic acid added, used as a gargle, has rendered most satisfactory results. Tannic acid may be added with advantage; great relief is also afforded in cases of acute coryza, by diluting a 50 per cent. solution one-half, and drawing it through the nares by a forced inspiration.

I have just been informed by Dr. Muller, surgeon to this hospital, that he has preserved perfectly pathological specimens for four years, and will probably remain as such for an indefinite time.

The ointment of boroglyceride, "unguentum boroglyceridi," appears especially adapted to, and efficacious in, the treatment of ocular diseases, more particularly, perhaps, on account of its convenient form, and being more suitable to add other ingredients. The following is the formula for making the ointment:

R.—Boroglyceride, 50 per cent. solution in glycerine		℥ij.
Vaseline		℥vi.
Ol. rosæ		q.s. M.

Heat the boroglyceride, and, while hot, add it slowly to the vaseline, stirring it constantly until thoroughly mixed.

MEDICAL PROGRESS.

Comparative Value of Lumbar and Iliac Colotomy.—M. Reclus, at the recent meeting of the French Surgical Congress, read a joint communication of himself and M. Verneuil upon the comparative value of lumbar and iliac colotomy. After reviewing the recent advances in the operation of lumbar colotomy and the operation of iliac colotomy as practised by M. Verneuil, preference was given to the latter's operation for the following reasons:

1. Lumbar anus is not less disagreeable nor better tolerated by patients than that of the iliac region; and the iliac anus is, moreover, under the hand and eyes of the patient, who thus is enabled to pay much attention to himself and to preserve the strictest cleanliness.

2. Hernia of the mucous membrane is not more frequent in the anus of Littré than in that of Amussat; it is due to the extent of the intestinal incision, and may disappear altogether by progressive destruction of the artificial anus—a process which takes place as frequently in one operation as in the other.

3. The union of the intestinal loop after suture to the cutaneous wound does not prevent fecal matter from passing to the lower end of the bowel after the operation for lumbar colotomy, or after the operation for iliac anus; but, in the latter, the lower orifice permits thorough washing of the rectal segment.

4. The sigmoid flexure is more easy of access, and more frequently reached in the iliac fossa than in the descending colon in the lumbar region. In general, there is too little account taken of the anomalies of that intestine in the operation of lumbar colotomy.

5. The peritoneum is not always avoided in lumbar colotomy; and a statement in the affirmative cannot be invoked as an argument for the operation. On the other hand, the mortality of operation of iliac colotomy for cancer of the rectum is only 10 per cent., a lower percentage than that of lumbar colotomy.

In view of the above argument, it is evident that the iliac anus is more advantageously located; that the operation is easier of execution, is of less gravity, and is to be preferred as a palliative procedure in cancer of the rectum, where the disease is located too high to render operative interference upon the lower extremity of the bowels possible.—*L'Union Médicale*, April 23, 1885.

OCULAR TRAUMATISMS.—DR. DEHENNE, in a short but excellent study on ocular traumatisms, reaches the following conclusions:

1. Every lesion of the eye, however slight it may at first appear to be, should be examined with the greatest care. Above all, examination of the visual field should not be neglected.

2. The prognosis in every case should be made with extreme reservation. Frequently many days may elapse before the result of the injury can be determined exactly.

3. The ciliary region is a veritable *noli me tangere* of the eye. Traumatism of this region much increases the gravity of the prognosis.

4. In every instance of resulting anterior synechia there is great necessity for reserve on the part of the surgeon as to the future condition of the patient, even when the wounded eye has regained its functional integrity. Adhesion, however slight, of the iris to the cornea is a perpetual menace to the integrity of the eye.

5. Every foreign body in the eye may produce severe sympathetic inflammation. Wounds of the ciliary region frequently entail slow sympathetic inflammation of which the point of departure seems to be choroidal calcification.—*Revue de Thérapeutique*, April 15, 1885.

CARDIAC RHEUMATISM.—DR. VAISSE records an exceedingly interesting case of primary cardiac rheumatism. Study of the progress and history of the case has led him to the following conclusions:

1. Acute rheumatism may attack the heart before the existence of articular complications.

2. In primary cardiac rheumatism death may result from lesion of the heart due to such cause, though the cases are extremely rare and exceptional. In the case under consideration the cause of death was myocarditis consecutive to pericarditis.

3. Degeneration of the cardiac tissue in analogous cases may result frequently in death.

All efforts to relieve the cardiac symptoms have failed, and no remedy has succeeded in preventing the progress of the disease toward a fatal termination. Digitalis and citrate of caffeine are only temporarily beneficial, and the therapeutics of the disease are entirely unsatisfactory owing to the profound lesions undergone by the cardiac muscle.—*L'Abeille Médicale*, April 13, 1885.

SURGICAL INTERVENTION IN BILIARY LITHIASIS.—DR. J. THIRIAR, in a paper read at the recent French Surgical Congress, expressed the following views:

It is a well-established fact that the gall-bladder is not indispensable for the regular performance of the digestive functions in man. The organ is entirely absent in many mammifera, and it not rarely happens that it is found completely atrophied in man.

If it be admitted that it is not alone in the gall-bladder that calculi may be formed, it is, however, very rare that this is the case outside of such pathological conditions which produce the formation of gall-stones in the biliary ducts and canals. These pathological conditions (cancer and obstruction of the biliary ducts) are contraindications to cholecystotomy.

The operation is very delicate and difficult to practise, but when strict attention is paid to antisepsis experience has shown the danger from peritonitis to be small. He thinks of all laparotomies, that practised for extirpation of the gall-bladder is the least serious and dangerous, and it is an operation which is justifiable in those cases of biliary lithiasis which have resisted treatment and are attended with violent crises. As to cholecystotomy, proposed by Lawson Tait, it is more easily performed than cholecystectomy, but is inconvenient in that it leaves a biliary fistula with its accompanying dangers, and does not remove the organ in which the calculi are produced, and which are liable to be reproduced.

MERCURIC CHLORIDE OF UREA: A NEW ANTISYPHILITIC.—DR. JOSEPH SCHÜTZ, in the *Deutsche medicinische Wochenschrift*, of April 2, 1885, brings to notice a new remedy for syphilis which he claims to have used with good results. The bichloride of mercury and urea are combined in the proportion of their atomic weights, thus producing the mercuric chloride of urea. The preparation, which is used hypodermically, is said to be less unpleasant in its effects than other mercurials heretofore used. It deteriorates less rapidly than some other forms of mercury, produces less pain, and diarrhœa as a result of its injection has never been noticed. The preparation recommended is the following: 15 grains of corrosive sublimate are dissolved in 3.38 ounces of distilled hot water, and when the solution is cold 7½ grains of urea are added. For the practical physician it is recommended that 7½ grain portions of urea be kept and added in the required proportion to a 1 per cent. solution of corrosive sublimate as occasion may require.

OVARIOTOMY AT IMOLA AND PARMA.—DR. VINCENZO LESI performed at Imola, on the 17th of March, ovariotomy on a woman aged 54 years. The cyst involved the right ovary and the pedicle was very long. Omental adhesion was extensive and necessitated many ligatures. After the operation the temperature did not exceed 100.4° F., and the progress of the case was free from complications, with the exception of slight colic. The woman is in excellent condition.

DR. GIOVANNI CALDERINI, during the present month and in April last, performed successfully two operations for ovariotomy. In the earlier operation (in which the peritoneum was extensively adherent to the growth) he removed an enormous tubo-ovarian cystoma of the left ovary. In the second case he performed a double ovariotomy, which was rendered especially difficult by the complications presented. The first case is entirely cured, and the condition of the second woman is such as to render her recovery probable.

NEPHROTOMY.—On the 8th of March, 1885, Prof. Vincenzo Dattilo performed the operation of nephrotomy for suppurating hydro-pyelo-nephrosis.

For the successful performance of the operation resection of the twelfth rib was necessary. The case is progressing rapidly toward recovery.

LAPAROTOMY.—PROFESSOR LORETA, on the 18th of April, 1885, successfully performed the operation of laparotomy in his clinic, for the removal of a large fibroid tumor of the left ovary. The woman has perfectly recovered.—*Gazzetta Medica di Torino*, May 5, 1885.

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THE ABORTIVE TREATMENT OF TYPHOID FEVER BY MERCURIAL INUNCTION.

NONE of the measures as yet suggested to abort typhoid fever have materially influenced its treatment by physicians in this country or in England, whatever may have been the impression they have made upon the continent of Europe. The latest treatment, although a modification of the mercurial plan which has been for some time before the profession, promises results which demand for it a trial, based as it is on an experience with one hundred cases, recently published by DR. KALB, in the *Berliner klin. Wochenschr.* for January 19.

Dr. Kalb's method is to rub into the skin 90 grains of mercurial ointment, daily for six days, the first application being made to the abdomen, and at least half an hour being consumed in the friction, which must not, however, be trusted to the patient himself. On the second day the ointment is to be rubbed on the inner side of one thigh, on the third on the other thigh, on the fourth again on the abdomen, on the fifth on one of the thighs, and on the sixth on the remaining thigh. The inunction is preferably made in the evening. The ointment is not quite fresh, but slightly rancid, since it is believed that a greater uniformity of result is obtained.

Coincidently, Dr. Kalb administers a powder containing 7.5 grains of calomel and three-quarters of a grain of opium every five or six hours, the opium being added to prevent the calomel from acting as a purge. No other medicine is given except alcohol, which is, however, administered in full doses.

The results are described as follows: On the second day the temperature falls half a degree or more, but rises again the next day to its previous height and remains at this seven days. On the eighth day of the treatment—that is, the second day after the inunction is completed—the temperature falls to normal or almost normal, and continues thus with slight variations. Occasionally the temperature sinks to normal even during the inunction, but it is necessary to carry the treatment to its end, or the temperature may again rise.

The pulse remains for a few days at 100 to 120, though it also often falls with the temperature to the normal, or even to 60 or below. With the fall in temperature, perspiration becomes freer and shows itself especially on the abdomen and thighs. With the disappearance of fever there is a return of normal sensation; there is a mere trace of bronchitis, but the spleen remains enlarged for from ten to fourteen days.

Kalb has not neglected to compare these results with those produced by cold baths, by calomel and alcohol, or alcohol alone, and has invariably found that the inunction treatment contrasts favorably, and has been repeatedly reproached by patients who had not been anointed because they were still confined to bed, while others treated by inunction had completely recovered.

He does not claim, however, that the method is always successful, but only that 80 per cent. of those thus treated become free from fever within ten days of the beginning of the treatment. The treatment is also only efficient if adopted within the first nine or ten days, in general before the rose-colored rash has made its appearance; indeed, after this time it is useless.

While he has observed salivation, it has always been slight, and confined to transitory swelling and sensitiveness of the gums, and Kalb holds responsible for it the calomel rather than the mercurial ointment.

Our readers will not fail to have noticed that the treatment is really a combined one of stimulation with mercurials, but the results are certainly such as should not be lightly passed by. Stated with positiveness and confidence, and substantiated by so large a number of cases, it would indeed be strange if they were entirely erroneous. We strongly commend them to the attention of our readers, and as the treatment is so easily carried out, we ought soon to have an abundance of testimony bearing upon its value.

OUT-DOOR LIFE AND HEALTH.

The desire to flee the town and breathe the fresh, invigorating air of the country when spring returns to reanimate the outer world, is an irresistible and salutary prompting of our nature. City life to most persons is enervating. More or less confinement to artificially heated and badly ventilated rooms, short days and long nights, limited out-door exercise, together with the influences of the customs and conventionalities of city life, tend to depress and weaken the physical energies, and debilitate the system, so

that when the open season arrives there is a natural yearning for "pleasant fields and pastures new."

According to high authority, the body-weight is lightest, and the physical functions least vigorous towards the end of winter and in early spring. Then until midsummer there is an increase of flesh and energy, which is largely due to change of habits and food, and the invigorating influences of sunlight, fresh air, and out-door exercise. Bearing this in mind, we see how advantageous to health are all such diversions as require the open air for their enjoyment, provided, of course, that proper moderation and judgment are exercised in their use

The old adage about "all work and no play" is quite as applicable to the mature as to the young. Both mind and body require diversion, change, and recreation, to be healthy in their functions. Continuous, undiversified application of the physical or mental energies tends to unbalance the harmonious action of the organism, and seriously interfere with the healthful performance of the functions of the system. That arrangement of the plan of life is most rational which permits of a healthful exercise of the powers of the mind and body without overtaxing the one or the other. The interrelations of mind and body are such that neither can maintain a healthful state without a sound condition of the other. Physical exercise is essential to bodily health, and, therefore, to a sound mental status. When combined with pleasure the best results are to be anticipated, and this is one of the reasons why out-door sports are so advantageous in restoring and maintaining the vigor of both mind and body.

Whatever may be the avocation or employment, it is wise to renounce it for a season to seek rest, recreation, and the restorative influences of out-door life.

The idea that the preservation of health requires an occasional relaxation from the pressure of the usual pursuits is winning its way into favor. Its influence may be seen in the reduction of the hours of toil, in the early closing of business houses, in the practice of granting summer vacations to employés, in restricting the activities of business to the early hours of the day, and in the increasing number and popularity of summer resorts. How different from the practice in vogue years ago, when even the night was trenched upon by business, and when recreation was indulged in only by the opulent.

It is encouraging to notice an increased attention given to out-door sports, some of which have become so popular as to assume a national character. Intense interest is manifested in hotly contested matches, which are publicly announced and witnessed by multitudes of spectators, who are thus induced to seek a means of diversion from their ordinary pursuits. These exhibitions foster a desire to indulge in recreation, and in this way are indirectly advantageous.

That irreparable physical injury, from excessive muscular strain and fatigue, has occurred in some instances, is not to be denied; but such mishaps are rare, and might be largely prevented if careful physical examinations were made of the contestants in all sports requiring the highest development and concentration of the physical energies and endurance, with the view of warning such persons as are unfitted for the severe ordeal, of the risk they are liable to incur. If we mistake not, some such regulation has already been adopted by one or more of our colleges, with the object of preventing, as far as possible, any serious mishaps from indulging in severe physical contests.

The lighter sports and recreations, such as are enjoyed by the multitudes, are those which afford the widest field for beneficial results. The country, the mountains, the seashore, the rivers and parks, all offer diversified and healthful means of recreation, which the denizens of cities wisely take advantage of at this season of the year. The severe strain and tension upon the system, incident to the American methods of acquiring a livelihood, make it all the more necessary to unbend the bow for a season, and give nature an opportunity to invigorate and restore the overtaxed and damaged energies of both mind and body.

In recognizing the important relation of fresh air and recreation to health, the wants of the helpless poor have not been overlooked,—such noble charities as the Children's Country Week, the Sanitarium, St. John's Guild, and kindred institutions, coming to their rescue by affording advantages which otherwise must have been denied to a large class of the population.

THE NURSING BOTTLE AND THE ÆSTHETIC FACULTY.

Whatever theory of æsthetics may be accepted, from Plato's to that of Oscar Wilde, many believe that the love of the beautiful has greatly lessened. In our day not even the eloquent utterances of Ruskin, calling on men to worship the beautiful in nature and in art, have had enough power to make æsthetic culture general. A few years ago Oscar Wilde believed he too had a mission, but though he invoked men and women in poetry and prose, from the press and from the platform, his words were as the voice of one crying in the wilderness; the human race moved steadily on, trampling under foot all flowers in its persistent pursuit of the utilities, though a big helianthus was waved before them in passionate remonstrance. Disappointment seems to have struck the oracular Oscar dumb, he is as silent as the grave, and no one has come to take his place, while the average man and woman plod on in life, giving more attention to justice and truth, or at least to bread and butter, than they do to beauty.

The real difficulty in the work of the reformers, the reason they have not succeeded in reviving æsthetic love, is that they have not understood the cause of its decline. Physicians are wise enough to cure disease by removing its cause, when they can, and æsthetic missionaries must adopt a like plan. We must know the source of the love of the beautiful, the fountain of the æsthetic faculty, and see whether the evil so greatly mourned does not originate there. This fountain is woman's mammary gland; if women had no breasts, there would be no love of the beautiful possible for the human race. The Amazons, those unhappy creatures who took off one of their breasts, became celebrated as athletes, but not as æsthetes.

That the female breast is beautiful we might prove by showing that it has the chief characteristics, such as its lines, color, and smoothness, which Plato indicated in *Philenus*, as essential to beauty. But this is unnecessary, and we prefer at once explaining its connection with the æsthetic faculty, which can be best done by quoting from Darwin's *Zoonomia*. Erasmus Darwin in this work, which in some respects is as remarkable as any of the productions of his illustrious grandson, Charles Darwin, tells us that soon after a babe "is born into this cold world it is applied to its mother's warm bosom, ... which the infant embraces with its hands, presses with its lips and watches with its eyes, and thus acquires accurate ideas of its form. Its pleasure at length becomes associated with its form. And hence in our maturer years when any object is presented to us, which by its waving or spiral lines bears any similitude to this form—whether it be found in a landscape with soft gradations of rising and descending surface, or in the form of some antique vases, or in the works of pencil or chisel—we feel a generous glow of delight."

Accepting Darwin's theory of the origin of the æsthetic faculty, it is self-evident that those infants who are brought up artificially, "by hand" instead of by breast, must be deficient in this faculty. In short, the use of the nursing bottle is the cause of the decline in the appreciation of beauty.

Now we are safe in saying that a large proportion, probably not less than one-third, of babies in the so-called enlightened countries depend the first six months of their lives exclusively or partially upon "nursing bottles." Hence entire absence of the æsthetic faculty in some, and a very imperfect condition of it in others.

Those who love the beautiful, and who mourn its decline, must seek the remedy for the latter by encouraging maternal lactation, and banishing the nursing bottle, when there will be hope that the coming race will attain the poetic ideal in this regard. In an age when so much is accomplished by voluntary organizations, such as for the promotion of charity, the suppression of vice, etc., there might be a society for the promotion of this object. As women do not nurse because they can not, their breasts not being sufficiently developed, or because they will not, this society would have its work divided into two great sections—one devoting itself to the culture of the moral sentiment which will compel a mother to nurse her infant, and the other to discovering the best means for cultivating mammary glands. The latter section at least would be divided into several subsections, each of these giving itself to the special study of these organs. Thus one subsection would investigate the typical form, another the embryogenic development, a third the blood-supply, a fourth the minute anatomy of the glandular structure, and thus on, while a final class, a very large one probably, would be composed of those who do not see the purpose of this article, and would be occupied with lymphatic investigation. A society with such various and elaborate breastworks would be invincible. It, of course, would be international, and could be bisected, trisected, and quadrisected—in fact, divided into so many sections that everyone could occupy an official position.

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

The annual session of this Society, which has just been concluded at Scranton, seems to have been a harmonious and in other respects a pleasant one. While no papers of great importance were read, at least two matters of business were resolved upon, which cannot be regarded as unimportant. The first of these was the passage of a series of resolutions declaring in favor of a State Board of Examiners and Licensers, independent of the Medical Colleges of the State, and the appointment of a committee to draft a bill embodying this principle, to be reported at the next annual meeting of the Society. If approved, the passage of the bill is to be secured, if possible, at the next biennial session of the Legislature, that is, in 1887. The evident majority by which these resolutions were carried shows that the profession of the State are ready for such a bill, which seems now to be required more particularly to protect them against the large number of poorly educated men who are being graduated by the extra-State schools, adjacent to our boundaries. At the same time, it is no more than fair that the graduates from the schools within the State should be subjected to the same examination.

The second resolution, also passed by a decided majority, inhibits county societies from attempting to secure legislation on matters affecting the conduct or interests of the profession of the entire State. It is evident that the initiation of such legislation should be, not with a county society, but with that of the State, in order that the profession throughout it may have a voice, and all interests be fairly represented.

SPECIAL ARTICLE.

PRELIMINARY REPORT OF THE SECOND SERIES OF SESSIONS OF THE GERMAN CHOLERA CONFERENCE.

SIXTH SESSION, MAY 7, 1885.

PROF. KOCH opened the Session with a demonstration of inoculations of Brieger's bacillus in guinea-pigs, and of pure cultures of comma-bacilli obtained from the intestines of guinea-pigs shown the day previous. He then resumed the debate, which he said had simplified the subject, for the points of difference between himself and Prof. v. Pettenkofer were diminished by the latter's conceding the influence of traffic and the existence of personal immunity. Prof. Koch, in return, did not entirely deny the influence of humidity of the soil—especially in the upper layers, where organic matter undergoes decomposition—upon the origin of an epidemic, but this condition is only one, and not the foremost, of many factors. Thus, local immunity, which is the sum of very complex conditions, as was shown for example at Lyons, is not explained by it solely. In India, there is only one place of immunity from the disease, and this is the town of Mooltan, which is situated in the desert.

He then adduced further examples to show that intercourse with cholera patients is not without danger. The dangers arising from ship traffic do not depend on the extent of the epidemic on individual ships, but on the number of vessels attacked; and this is comparatively great.

PROF. KOCH then directed attention to the third point proposed for discussion. He held that there is no authentic fact by which the transference of cholera by means of the air can be proved. Such an influence might exceptionally occur, but ordinarily the only influence exerted by the air upon an epidemic of cholera is by the fact that in moist air the infecting principle remains active for a longer time and dies quickly in dry air.

Soil can exert an influence upon the spread of cholera, but this is physical, and not geological, in its nature. Clayey soil, according to the hitherto accepted opinions, should afford some protection against the disease; but examples were cited by the speaker to prove that such protection does not always exist. Ground water can give no index of the extension of cholera, as was shown by marked examples from India, Egypt, Paris, Genoa, and Naples. The important condition in the soil as relating to the disease, is the decomposition occurring in the upper strata. Prof. v. Pettenkofer has declared three factors—*x*, *y*, and *z*—necessary in order to produce an epidemic, and Prof. Koch asked whether the bacillus represents the "*x*" or the "*y*" of the theory.

Drinking water has at all events some significance. A certain percentage of individuals will, through pure water, be protected from cholera. This fact he demonstrated by charts and tables, from Calcutta, especially Fort William, and from Bombay, Madras, Nagpoor, Pondicherry, Alexandria, and Cairo.

DR. GÜNTHER declared that in Saxony, during the epidemics of 1865, 1866, and 1873 physicians, nurses, transporters of the sick, and gravediggers, exhibited no higher mortality than the average among the general population. Laundresses of infected linen, as in 1865 and 1866, suffered a higher rate of mortality, but not in 1873, and in this connection it is to be remembered that in 1865 and in 1866 they were able to take the linen of deceased patients. He adduced further examples from Elsterberg and Gerbergasse, in Dresden, which seemed to favor the opinion that protection from the disease is afforded by clayey soil. The acme of the cholera epidemic in Saxony, in 1873, coincided with the height of the temperature of the soil at the depth of thirty-nine inches.

PROF. V. PETTENKOFER then read a paper entitled "The Drinking Water Theory and the Immunity from Cholera at Fort William in Calcutta." He pointed out that, according to Dr. Mouat, not only by the opening of a new water supply, but by further and exceedingly comprehensive hygienic measures, through which the sanitation of the soil was accomplished—the cholera epidemic at Fort William had been brought to a close; and the same had been claimed in other places, where improvement in the water supply had been regarded as the cause of the disappearance of the cholera; but more careful scrutiny had shown that the supposition was erroneous, or that many other hygienic measures of a different nature have coöperated to produce the effect. Pure drinking water *per se* is not a specific protection against cholera, and he considered it important to explain this, since, if the introduction of a pure water supply has been accomplished, our people will consider that sufficient has been done towards prophylaxis, and thus neglect the more important considerations of soil sanitation, even apart from an epidemic.

SEVENTH SESSION, MAY 8TH.

PROF. V. PETTENKOFER continued the discussion by saying that when he had proposed to consider the ground water as an index of cholera, he had not particularly meant the rise and fall of the ground water, but only the variation in the humidity of the soil overlying the ground water, occasioned by the rising and sinking of the water level. These variations only had any etiological value, and only such wells as do not vary from other causes could be used for measurement; for example, not those whose condition plainly depends on the height of the neighboring river. He postponed his further reply to Dr. Koch's criticisms until another occasion, since he had not at hand the data referring to many of these, and time did not allow of his considering them all.

DR. FRÄNKEL said that since the communications concerning the life duration of cultures of the comma-bacillus had clearly established the winter latency of an epidemic, there remained of the reasons advanced by Prof. v. Pettenkofer against the view that the comma-bacillus is the cause of cholera, only this, viz., that by the life peculiarities of the comma-bacillus the epidemiological laws of the local and

periodical characters of cholera epidemics cannot be explained. But this difficulty might be easily overcome, if we once admit the comma-bacillus to be the cause of cholera. It traces the cause of an epidemic to something outside the human body, with certain special conditions, which we designate as local and periodical, in addition. He asked Prof. v. Pettenkoker if, in what is known of such conditions, there are any facts which preclude the acceptance of the theory that the comma-bacillus is the cause of the disease.

PROF. V. PETTENKOFER replied that such conditions depend upon:

1. The physical peculiarities of the soil (permeability).

2. Its humidity, and the variations therein.

3. Its impregnation with organic matter.

He could only recognize the comma-bacillus, or any bacillus which bacteriology considers the cause of cholera, as the special virus of the disease, and have all doubt as to its causative influences removed, when it is proved that the microörganism in question answered to the epidemiological facts of local and periodical conditions of the disease. For this it is necessary that, like the virus of malaria, it have a relation to the soil.

PROF. VIRCHOW said that when Prof. v. Pettenkofer began his studies upon cholera, is was presupposed in Munich that a fungus was the cause of cholera, but through Thiersch's experiments upon white mice the idea was brought forward that the virus was developed later in the dejections. Although these experiments have been shown to be erroneous, yet Prof. v. Pettenkofer has not abandoned the idea of this late development of the cholera germ. In the investigation into the various conditions in which fecal products were concerned, the soil naturally occupies great prominence, and in this connection the labors of v. Pettenkofer had given much information. But while he gave deserved recognition to these investigations, nevertheless, he could not understand their exclusive standpoint. Why could the matter which causes cholera, and which is present in the soil, pass into drinking water? Theoretically, no objection can be made against this supposition. In practice, the somewhat crude question presents itself, to wit, whether improvement in drinking water is able to limit an epidemic of cholera. But there are many kinds of impurity in drinking water. If, in opposition to the experience advanced in this connection from Fort William, Calcutta, by Prof. Koch, Prof. v. Pettenkofer objects that other sanitary changes were effected, it must also be inquired whether they also were of value. Through the introduction of good drinking water, the drainage was also improved, and both, without doubt, exerted a favorable influence. What obtains in cholera is true also of typhoid fever. Thus, for example, the introduction of drainage produced a sudden and permanent reduction in the frequency of typhoid fever in Halle, and the buildings supplied with good drinking water remained free from the fever.

Yet it does not follow that typhoid fever and cholera are in no wise connected with the soil. It is established that the comma-bacillus can exist in water, and were another fungus allowed to be the cause of cholera, this same must be proved of it. By subsoil water he does not understand, with Prof. v. Pettenkofer, the water which oozes through the upper strata. In Berlin, for example, the water courses only to a moderate extent impregnate the soil, while the water they contain comes mostly from more remote and elevated regions. The subsoil water is a uniform substance, and it is impossible to draw distinctions in it. He had always maintained that only in the uppermost layers of the soil can fungi obtain their nourishment; and this was important, since every kind of impurity could not be drained off. According to the investigations made by Dr. Babes, in the Pathological Institute, the comma-bacillus, in the struggle for existence with other bacilli—*e. g.*, the putrefaction bacillus—was speedily stifled, and, therefore, it was dependent upon special and distinct conditions, whereby it can thrive. Further investigations, which must be made in connection with the ground water, drinking water, linen, etc., are required to give decisive information concerning how the bacillus could best thrive. A personal predisposition to cholera is not to be disputed, and in this relation it is important to consider that the occurrence of cholera usually takes place at a period of digestion, in which the contents of the stomach are more quickly passed into the intestine, and thus a living organism may reach the more deeply situated portions of the intestine, without being long in contact with the acid chyme of the stomach. He must also attribute some importance to the influence of the air. Thus by the simple handling of linen moist particles could be dispersed in the air, and thence enter the mouth.

PROF. KOCH said that he had much to say against the views of Prof. v. Pettenkofer, but on account of the necessity of concluding the Conference to-day, he would postpone his observations until another occasion.

The fourth point in the discussion was then considered, viz.: *Practical considerations in connection with the measures to be taken against cholera.*

PROF. KOCH summarized the principal measures which may be instituted against cholera under the following heads:

1. General measures which directly destroy the infective principle. Disinfection of the discharges. Destruction, or thorough disinfection of linen, etc. 2. Sanitary measures to remove the infectious matter from the neighborhood of the population. Drainage and care to obtain good water for drinking and household purposes. 3. Intelligent supervision of communities, so as to diagnosticate the earliest cases of the disease immediately, and thus to nip the epidemic in the bud. The sick must be isolated, or at least so dispersed that the transmission of the disease by the infecting germs may be avoided. Houses in which the disease occurs should be vacated, *i. e.*, the unattacked must be removed, and be kept under close observation. 4. Instruction of the public so as to allay their fears, and they must be warned of the danger of using infected food, *e. g.*, uncooked food, unboiled water, and especially of the dangers arising from the use of infected linen.

PROF. GÜNTHER called attention to the fact that, in the present status of our knowledge, it is very difficult to say what water is dangerous to health, and in what cases the wells should be closed.

PROF. KOCH said that no general rule could be laid down. It is, however, not only necessary to take into consideration the chemical properties of the water, but also to discover how many, and what kind of microörganisms are present in it.

PROF. GÜNTHER alluded to the supervision of railroad travellers. This he held to be difficult and often impossible of execution, and of doubtful advantage.

PROF. KOCH held that the provisions in this relation must be conceived in a humanitarian sense, as a general measure for the protection of the patient himself, and in the interest of his fellow travellers.

DR. S. NEUMANN called attention to the fact that the premonitory diarrhœa is excluded from control and yet must be regarded as cholera.

PROF. KOCH agreed, provided that the comma-bacillus was present in the dejections.

PROF. KÖHLER, in view of the strict control of maritime traffic, would like to support a practicable revision of railway travel without embarrassment to travellers, so that charges may not be brought against the authorities of neglecting precautions for the protection of travellers on land.

DR. MEHLHAUSEN urged the importance of keeping clean the water-courses. This is important not only for the larger but for the smaller streams whose waters are in general use.

DR. EULENBERG adduced examples in this connection, and cited the spread of cholera through the Saltzbach in Wiesbaden, and the Schwartzbach in Liegnitz.

PROF. VIRCHOW said that, according to the investigations of Prof. M. Wolff, all bacilli could be killed in the portable disinfection apparatus of Bacon. This apparatus can anywhere be easily used. The Town Council of Berlin built, in a very short time, stationary disinfection establishments, but in many cases a portable apparatus would succeed well. The isolation of cholera patients, since they undoubtedly can transmit the disease, is necessary. Land quarantine under the complex regulations of commerce is impossible, and in practice is no longer a question for discussion. One could, however, not censure an insular people if they sought to protect their island from the plague by insulation.

PROF. KOCH held that thorough drying is useful for disinfection. On every side his observation is confirmed that the comma-bacillus is quickly destroyed by drying. When disinfection through hot steam and carbolic acid, from any cause, is not practicable, he recommended the application of thorough drying for the destruction of the infectious principle. For example, in the disinfection of dwellings and furniture the drying process can be hastened by keeping-up fires in the rooms. In some way it is always possible to obtain at least thorough dryness. Fresh whitewashing with lime, in other cases, will suffice. In reply to the question of Dr. Pistor, Prof. Koch said that corrosive sublimate also destroys the comma-bacillus, but he did not, however, recommend this agent as a disinfectant on a large scale.

PROF. V. PETTENKOFER maintained that general directions which aim at the isolation of cholera patients, at disinfection, etc., do not determine whether the cholera will appear in a place or not—or whether the epidemic will be mild or severe. He acknowledged, however, that something must be done for the reassurance of the people.

DR. KERSANDT warned the authorities against inaction in the presence of an outbreak of an epidemic. The interests of the State demand that the public should feel that protective measures were taken. This is the best means to reassure them. The State can do much to guard against the transmission of cholera—the sick must be isolated so far as possible, and the dwelling-houses of cholera cases vacated after the outbreak of the disease. Supervision must be maintained over the water supply, and nothing neglected which, in the light of experience, may be able to afford protection.

PROF. VIRCHOW said that in the years 1848 and 1849 the physicians had acted on the supposition that cholera was not contagious. The mortality in that epidemic (12 per thousand) was the greatest which had ever been experienced in Berlin. As a measure of what could and should be done, the experience of this special epidemic is more useful than the observations of epidemics in the aggregate.

DR. MEHLHAUSEN said that the bodies of patients dead from cholera should not be transported. They should be enveloped in cloths soaked in carbolic acid, and, after standing a short time above ground in thick tarred boxes, without exposure, they should be buried.

The debate of the fourth point was then concluded.

On the fifth point, viz.: *Other subjects which may be named for discussion by the participants in the debate*—no one spoke.

PROF. VIRCHOW then closed the Conference and thanked the foreign members for participating in the discussion.

PROF. V. PETTENKOFER, in his own behalf and that of Dr. Günther, acknowledged the kind reception extended to them. The Conference, he said, had a common aim, and they could all meet together, even if their opinions were at variance.

SOCIETY PROCEEDINGS.

NEW YORK SURGICAL SOCIETY.

Stated Meeting, May 12, 1885.

THE PRESIDENT, ROBERT F. WEIR, M.D., IN THE CHAIR.

DR. LANGE read a paper entitled

OBSERVATIONS ON ACUTE SPONTANEOUS OR INFECTIOUS OSTEOMYELITIS.

DR. POST, a few years ago, saw a boy, fifteen years of age, who had been stopping at some watering-place, where he was attacked with multiple osteitis affecting one arm, the opposite forearm, and one thigh near the knee. He was brought to the city within five or six

weeks, when he had a large abscess at the upper fourth of the arm, which Dr. Post cut down upon, and found necrosis at the upper part of the shaft of the humerus, and removed a piece of bone about one and one-fifth inches in length. The shaft afterwards united with the epiphysis, and formed a solid arm. The affection in the neighborhood of the knee became so serious as to require amputation.

The case was remarkable for the multiplicity of bones affected and the rapidity with which the disease pursued its destructive course.

Dr. Gerster said that the question raised by Dr. Lange as to whether early operation was capable of preventing necrosis was an interesting one, and he had had a single experience which might throw some light upon the answer to be given. About six years ago a middle-aged woman presented herself at the German Dispensary. She had a very high temperature, and her intellect was considerably clouded; but when she was shaken out of her listless condition, she said she had fearful pain in the lower portion of one of the arms, and on examination the usual signs of acute infectious osteomyelitis involving the lower portion of the diaphysis of the humerus was found, consisting of doughy, white swelling, pitting on pressure, and sensitiveness to the touch, etc. The elbow-joint was semiflexed, and contained an effusion which was not purulent, as subsequent puncture and aspiration demonstrated. The symptoms were so grave that, having the necessary attendance and having the means of moving the patient, Dr. Gerster cut down upon the bone at once, thinking that if the pus could be released symptomatic relief would follow, although he did not expect to prevent necrosis. By a long incision, therefore, he laid bare the posterior portion of the humerus, taking care not to injure the joint or the musculo-spiral nerve, and ascertained that then, three days after the inception of the disease, extensive necrosis already existed. The necrosis extended into the epiphyseal body. The periosteum was found infiltrated, and here and there discolored; the bone of a yellowish-gray color, and not bleeding when cut.

He mentioned the case to show how early necrosis will sometimes take place in these cases, and he believed that a few hours were sufficient where extensive involvement occurred and where one or more of the large vessels became obstructed. In the present case, a portion of the bone was removed by chiselling and gouging, an antiseptic dressing was applied to the limb, and the patient was sent home. He observed the case for five or six days after the operation, and then the patient was removed to a hospital, where he lost sight of her. But the fever and local symptoms, the pain especially, did disappear after this operative measure, and the woman's general condition was very much improved. It was probable, however, that suppuration followed.

With regard to early interference, it should be borne in mind how difficult sometimes an early diagnosis is. He recalled a case, which he saw in consultation, where the seat of the disease was in the pelvis, and in one of those portions of the pelvis which are not accessible to exact examination. The os ischii was diseased, and the patient was in a typhoid condition. Regarding the causation, it may be stated that he had suffered for many years from purulent catarrh of the middle ear. Being in an unconscious condition, the patient was unable to give any account of symptoms, and only a suspicion of osteomyelitis could be arrived at until, on the third day, when a very marked and extensive œdema of one of the lower extremities developed, which was especially distinct about the upper part of the thigh, close to the pelvis, and then they felt sure of the diagnosis of osteomyelitis. In that case operative procedure was out of the question, as the disease was within the pelvis. The autopsy revealed extensive destruction of one of the os ischii, and a purulent accumulation extending to the sacrum, with purulent infiltration of all the muscles attached to the pelvis and passing down to the thigh.

With regard to the long-continued quiescence of pyogenous bacteria retained at the point of the primary osteomyelitic attack, Dr. Gerster mentioned a case observed in the German Hospital, subsequently treated by Dr. Lange, who followed him in the surgical service. A man apparently had had acute osteomyelitis at the lower portion of the diaphysis of the femur when eighteen years of age, which was followed by extensive necrosis and removal of sequestra, and finally cure within three years after the attack. The quiescence continued until he was sixty-five years of age, when the disease was renewed in the old focus. Dr. Gerster found no sequestrum, but a quantity of deciduous ulcerating granulations.

SECONDARY CARCINOMA OF THE AXILLA; AMPUTATION AT THE SHOULDER-JOINT; SUDDEN DEVELOPMENT OF HEMIPLEGIA WITH APHASIA; DEATH.

Dr. L. A. Stimson presented a specimen consisting of a tumor removed from the axilla of a woman forty-five years of age, with a history of cancer of the breast beginning at the age of thirty-five years, which had been removed three times; twice by caustics, and the last time by the knife. Four and a half years before she came under his observation, about the first of last April, she was then a thin, spare woman, in apparently good health, without cachexia, but complained of pain in the axilla, which had steadily increased and was accompanied with swelling of the right arm. On examination Dr. Stimson found in the scar, left by removal of the last tumor, one or two nodular masses, and in the axilla, the skin of which was tightly retracted, a cauliflower-like surface, moist but not ulcerated, and adherent to the tumor, which passed upward behind the pectoralis major muscle, and was quite firmly fixed to the deeper parts. There was no evidence of any glandular enlargement above the clavicle, and no signs of intrathoracic disease. The patient was exceedingly anxious to be relieved of the tumor, but Dr. Stimson told her that it was improbable that it could be removed and the arm saved, as it so involved the bloodvessels of the axilla that if they were left only a portion of the tumor could be removed, which it was not worth while to do. A fortnight later the patient returned and asked to have the operation performed. On the 22d of April the involved skin was circumscribed by an elliptical incision, extended down the arm to expose the vascular and nervous bundle; this was traced upward until it was lost in the tumor, and then the dissection was carried over the anterior surface of the tumor until the nerves and the artery were again found coming out from the

upper part of the growth, making it evident that they had passed entirely through the mass. There were present at the operation Drs. Sands, Post, and Detmold, and at this stage of the operative procedure a consultation was held, and it was agreed by all that the arm should be removed at the shoulder, which was done, and the artery was tied just below the clavicle. All of the tumor was completely removed. The wound was closed and dressed and the patient placed in bed, when her temperature was taken and it was found to be normal, the pulse 90 and fairly good. Two hours afterward, after she had partly recovered from the ether, the pulse suddenly fell to fifty, and the patient again became unconscious. The unconsciousness continued through the night, and she constantly moved the left arm, waving it to and fro; in the morning her temperature was 102° F., and pulse 140. Although conscious, she was unable to speak, and when addressed would point to her mouth, as if to indicate inability to speak. She was hemiplegic on the right side, including the face. The patient remained in this general condition until five o'clock in the afternoon and died.

Some of the medical gentlemen regarded it as a case of cerebral embolism, but where the embolism came from Dr. Stimson was unable to say. The patient, however, had given a history of some heart trouble, the exact nature of which had not been ascertained. She had on several occasions had distress in the region of the heart with disturbance of breathing, and it was supposed that she was troubled with cardiac disease. No autopsy could be obtained.

The tumor showed the stump of the artery and nerves running through it. The loss of blood during the operation was trifling. The sudden fall of the pulse to fifty after coming from under the ether, followed by unconsciousness with waving of the arm to and fro followed by hemiplegia and aphasia, pointed very plainly to some cerebral lesion.

In reply to a question by Dr. Gerster, Dr. Stimson said there was no thrombus observed in the artery when it was divided.

STRAPPING THE TESTICLE.

DR. POST mentioned a case with reference to some details in the mode of procedure. It was one of gonorrhœal epididymitis in which, in the subacute stage, he resorted to strapping the testicle. In isolating the cord for this purpose there is often difficulty in preventing the adhesive plaster from cutting the skin. Lint is usually interposed, and sometimes there is difficulty in keeping it in position. To obviate these difficulties Dr. Post adopted the following plan: after having the scrotum shaved and the opposite testicle drawn out of the way, he passed a roller bandage, about fifteen to twenty millimetres in width and half a metre in length, around the cord and over the upper part of the testicle, and then used a strip of India-rubber adhesive plaster about twelve to fifteen millimetres in width and half to three-quarters of a metre in length, passing it spirally over the testicle until he reached nearly the lower extremity of the organ and then applied the radiated straps in the ordinary way.

The peculiarity of the method consisted chiefly in using one long strip of plaster instead of several short ones, and it facilitated the operation very much and accomplished the object in a much more satisfactory way.

THE PRESIDENT raised the question concerning the advantage of strapping the testicle at all. His experience was against its usefulness, and had been such as to lead him to abandon it altogether.

DR. POST said his experience had been entirely the reverse of that of the President. He did not strap the testicle in the acute stage, but when there was a disposition to chronicity he had invariably found that the pain was promptly relieved and the swelling rapidly subsided when the pressure was made in the proper manner and at the proper time. In the present case from the time of the first application there was a marked sensation of comfort to the patient, and a marked diminution in the size and hardness of the swelling.

DR. BRIDDON did not favor strapping of the swelled testicle, and had had much better results by the use of a very thin elastic bandage. In order that it may lie smoothly over them it must be very thin, and not more than an inch wide.

DR. POST thought it difficult to cover the testicle completely with the elastic bandage. He thought everything depended upon carrying out the details of the procedure, and in that respect he found a number of turns of the narrow bandage to answer a much better purpose than a single strip of lint, which is apt to crowd against the upper part of the tumor, and he had found difficulty in keeping in place the strip of lint usually employed.

THE PRESIDENT remarked that the narrow bandage was used in the New York Hospital twenty years ago, the plan of treatment being identical with that mentioned by Dr. Post, except the use of rubber plaster. His impression had been that the swelling would go away nearly as quick without it as with it, and more painlessly.

DR. POST remembered one case in which he was called in consultation; one of prostatic disease, where the use of the catheter had caused swollen testicle, and where one of the gentlemen present was a specialist in genito-urinary diseases, and a man of considerable eminence. It was determined to have the patient's testicles strapped, and this gentleman undertook it, and did it in an extremely bungling way, which did no good whatever. If well done, and done at the proper time, Dr. Post felt positive that the strapping almost always, if not invariably, proved useful.

DR. GERSTER thought the President's remark entirely correct—that is, that in most of these cases treatment by strapping is unnecessary. He believed that indiscriminate strapping or elastic compression is unnecessary, and therefore harmful. There were, however, some cases in which the infiltration remained stationary, sometimes eight, ten, or twelve weeks elapsing without improvement, and which did not yield so readily to any other method as to compression of the organ. But in general, he thought strapping of the testicle after orchitis was overdone.

DR. POST said, Suppose a person found that invariably it was a source of comfort, was there any reason why it should not be done?

THE PRESIDENT said it was a procedure which could not always be accomplished satisfactorily, even by specialists.

DR. GERSTER mentioned one complication which

may arise from strapping the testicle, namely, a disagreeable eczema of the scrotum, which is more difficult to cure than the infiltration for the removal of which it has been applied.

Dr. Yale could add his testimony with reference to the frequent occurrence of eczema of the scrotum, which rendered it necessary to abandon all local treatment.

The President directed attention to the fact that in the New York Hospital the House Surgeons had obtained very good success in the treatment of acute epididymitis by the use of the Paquelin cautery, making half a dozen stripes running over the swollen cord down to the middle third of the testicle.

Dr. Briddon said he had heard of like success in the Outdoor Department of the Roosevelt Hospital.

Dr. Gerster had been unable to ascertain which had been most relieved—the pain, or swelling, or infiltration.

The President remarked that the pain was notably relieved, but the infiltration took the usual time to subside.

Dr. Hutchison had for a number of years treated painful epididymitis by making an incision half an inch in length through the tunica albuginea, and invariably with the result of relieving the pain at once.

Dr. Gerster had treated three cases by pricking the tunica vaginalis, allowing the fluid to ooze out, this giving great relief from pain.

The President had adopted the method mentioned by Dr. Gerster several times with satisfactory results, and in several instances had carried the bistoury into the tunica albuginea, but had never made an incision in it as mentioned by Dr. Hutchison. He should fear the occurrence of atrophy or eversion of the testes.

Dr. Gerster thought there was nothing more sure to relieve the pain than the application of five or six leeches to the inguinal region along the cord.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, May 18, 1885.

The President, Charles A. Leale, M.D., in the Chair.

Dr. E. G. Janeway read a paper on

ADVANCES IN THE STUDY OF THE ETIOLOGY OF DISEASE.

When invited by the President to read a paper at this meeting, he said, he had chosen the subject of the advance in our knowledge of the etiology of disease because of some of the circumstances attending the present occasion, when the Association met in a building (the Carnegie Laboratory) which is to be devoted to the study of the anatomy and etiology of disease. No greater inducement to study exists than that innate desire for knowledge which can best be compared to the hunger for food which seizes upon the starving; but oftentimes those well adapted for research and investigation have been absolutely unable to succeed from the want of the necessary means, appliances, and place for such work. Having spoken of the encouragement afforded to those engaged in original scientific research by the Government in Germany, he said that any one in this country, unless possessing a private fortune, must give up a large share of his time and thought to acquiring the means of subsistence, and for the apparatus and other expenses of his work; and this must be either by teaching or practice. He is thus subject to interruptions, is obliged to work at scientific subjects not when fresh and vigorous, but when weary and jaded, and hitherto too often in places little adapted to encourage work under such disadvantages. But, thanks to the liberality of the gentleman whose name this building bears, one of the great obstacles to successful labor has been overcome.

The history of medicine until within the last forty years, he continued, has contained much that has been grossly theoretical. He did not mean to deny that there were not those who had the foresight to see through the mists that clouded the scientific horizon; but they lacked the means and appliances to prove the correctness of their surmises. While it has been the merit of many gradually to lead in the pathway of a true explanation, none will deny to certain a preëminence in this respect, not alone for what they have accomplished, but also for what they have suggested, which has been the occasion of a successful result by others. In speaking of Virchow, he said that some might hesitate to ascribe to him a prominent place amongst the advancers of etiology; but without his labors and those of his pupils in ascertaining the exact anatomy of disease, and in constructing a rational explanation or theory of its recurrence, we should be far behind our present attainments. Having alluded to the indirect benefits which had resulted from the labors of Jenner in regard to vaccination, he said that the origin of the idea that a number of diseases called infectious spring from organisms which have entered from without and grow and multiply in the body, to infect others again, has probably sprung in most minds from the established instances of parasitic development as witnessed on the skin and in the interior. The objections which are urged to-day against what is called the germ theory of disease were formerly employed against the parasitic skin diseases, both as regards scabies and the fungoid varieties.

To Schwann we owe the idea that putrefaction and fermentation are dependent upon the presence of germs or vegetable organisms, and to Pasteur the dogmas that without such organisms there is no fermentation, and that for the different kinds there exist specific varieties; as well as the method and idea of endeavoring to separate the different varieties by fractional culture. Having explained the plan of procedure adopted by Pasteur, he said that after the acceptance of the belief that fermentation and putrefaction were dependent upon germs which rapidly multiplied under favoring conditions, the search after the organisms productive of infectious diseases could not be long delayed, nor the idea, which many already entertained, that in all of these disorders there must be a specific infectious agent, which might be obtained for further research, be hindered from obtaining more adherents. The proof demanded, and which Dr. Janeway did not doubt would in time be afforded in regard to all infectious diseases, is of the following character: 1. The disease-exciting germ must be found constantly present during the presence of the disease, or at least of its earlier stages. 2. It must admit of cultivation out of the body under such circumstances as to assure us of its purity. 3. Reintro-

duced into the system, it must excite in susceptible individuals the same disease phenomena. 4. In the individual so made ill by the introduction of the culture, we must again find the same germ as the cause.

In Virchow's *Archives*, vol. ii., of the year 1857, are recorded the researches, findings, and experiments of Prof. Brand, of Dorpat, who barely escaped being a great discoverer in 1856. He inoculated animals with blood taken from the cadaver of those that had suffered with splenic fever; found the peculiar organism in the blood, not only after death, but during life, found that the blood was capable of exciting the disease in others, and followed the microscopic examination of the blood for several days. He then studied the blood of animals dead of other diseases, in order to ascertain whether the organisms which he saw were common to others or peculiar to the disease in question. Unfortunately, he thought that these bacilli were vibrios and similar to the organisms found in putrefying blood; only he derived the conclusion that their presence during life or within a few hours after death in the blood was characteristic of splenic fever. Dr. Janeway said he had introduced this case because it was the disease of which later (in 1877) Robert Koch was able to trace the history, and which was the first to prove that there is a specific organism which can be grown out of the human or animal body, which can be reintroduced, the introduction of which into a wound will reproduce the disease, and which during the disease is again found in large numbers in the blood. Moreover, he found that the bacilli grew and produced spores which had a far greater tenacity of life than the bacilli, and that the secret which had puzzled others as to the reason why blood from an animal sick with the disease which did not contain the characteristic rods should yet be able to reproduce the disease; as well as to show that the earth, etc., was not necessary as a place for change, but that this development of bacilli into rods, followed by the characteristic production of spores, occurred as well on the microscopic slide, provided that air had access to the germ, that a certain temperature was maintained, and that nutrient material of a proper kind was supplied.

Previous to this time, 1877, there had already been found, by Obermeier, an organism in the blood of patients suffering from relapsing fever, which was so peculiar in its appearance that so far it has not been found in any other disease than this. The discovery of the spirillum in this disease was made in 1873, and it has been found in those affected with the disease in India, Russia, and Germany. To the origin by inoculation in human beings, the objection has been raised that the disease might have already been contracted by exposure during its epidemic existence. So far the life-history of the spirilla of relapsing fever is incomplete in that its methods of growth and development are not known with certainty, and, hence, it is urged by some recent writers that the spirilla are simply concomitant; but Dr. Janeway expressed the opinion that the final outcome of the investigations would undoubtedly be in favor of the view that these organisms are the cause of the disease manifestations, either of themselves or in their process of development.

An immense advance has also been achieved in our comprehension of the cause of many inflammations, such as abscesses, erysipelas, pyæmia, etc. Whilst the opinions were beginning to be moulded in this regard, and prior to any established connection between micro-organisms and these states, Lister (1871), by his efforts, which had in view the prevention of the entrance of supposed disease-exciting germs, created a revolution in surgery. There are some who do not adopt Listerism in its full sense, but yet claim good results; but he who is conversant with the past knows that the disbelievers, as a rule, exercise more care as regards cleanliness in all particulars than the most careful of their predecessors. While, however, such results as have been obtained by the exclusion of air and germs do not establish a definite causative nexus between germs and inflammation, these opened the way to more active and painstaking endeavors towards their discovery and cultivation, and Koch has again proved of special service in this regard, As a result of his labors, together with those of a host of others, it has been shown that either the micrococci or bacteria are present in inflammatory processes connected with acute abscess, pyæmia, septicæmia, erysipelas, and osteomyelitis. During the past winter, Dr. Janeway on two occasions injected a cat with pus from a localized empyema occurring in a young man who had pyæmia following typhoid fever. On the first, the pus was withdrawn from the chest by exploratory puncture; on the second, it was taken at the autopsy from the pleura. The cat showed slight ill-health for a day after the first, but no marked effect after the second. The sites of the disease showed micrococci in large numbers.

Erysipelas is a disease of such a characteristic type that it is not to be wondered at that attempts have been made to isolate and develop its organism, if one there were. Schleiden has succeeded not only in showing the presence of micrococci in the disease, as others had previously done, but also in cultivating these germs and in inoculating human subjects with the culture, with the result of producing typical instances of the disease. Pneumonia in many respects resembles erysipelas, especially as regards its method of spreading in the affected tissue, its clinical course, and its comparatively sharp crisis. Patient and continued research has resulted in the recognition of micrococci. These can be found in the sputum, and Leyden has obtained them in the fluid drawn from the lung by hypodermic injection during life. It is claimed that after cultivation they may be inoculated with success in the lungs of mice. Dr. Janeway said that recently four out of five Italians living in the same shanty, at Tarrytown, sickened with pneumonia, and at the autopsy of one of these, held four hours after death, he was able to find in the red hepatization, and particularly in the pleural exudation and the lymph vessels of the pleura, numerous micrococci. For a considerable time it was difficult to think of pneumonia as one of the acute infectious diseases, but he had heard of a number of illustrations of the sickening of several people in the same household with the disease.

Having spoken of the existence of micrococci in variola, vaccinia, scarlet fever, and measles, he said that in diphtheria there was not yet that sure proof that the organisms which had been observed in the disease bore a causative relation to it. There is no difficulty whatever in establishing the presence of a gonococcus in gonorrhœa, and micrococci can be found in large numbers in endocarditis in the little so-called vegeta-

tions which form on the heart-valves in this disease. Dr. Janeway, of course, alluded to Koch's researches upon tubercle and cholera, but did not enlarge upon them on this occasion.

In numerous cases of typhoid fever, he said, a bacillus had been found, not alone in the intestine, where it is commingled with a variety of others, but also in the mesenteric glands and in the spleen. Eberth has described this, and his description has been confirmed by Koch. In five cases of typhoid fever in which he made autopsies last autumn, Dr. Janeway found it present, but with one exception the autopsies were made twelve or more hours after death. The bacilli of typhoid, he said, had been found capable of growth upon culture fluids, but it would be difficult in this way to prove the disease, as the germs would necessarily have to be fed to individuals susceptible of typhoid fever, and not exposed to its influence. The history of medicine furnishes strong arguments for the existence of a germ in this disease, and few will be found more marked than the reports of the outbreak at Plymouth, Pa., as the facts have been gathered from medical journals and from conversation with Dr. Taylor, of the New York Health Board, who visited Plymouth by order of the Board.

For typhus exanthematicus there are no known experiments as regards culture or demonstrations of the peculiar exciting agent. Dr. Janeway has examined the blood taken from a spot of skin the site of petechial rash, and has found a few micrococci separate. Leprosy has been found to contain a specific germ or bacillus somewhat resembling the tubercle bacillus in its reactions. This germ was first discovered by Hansen, and afterwards by Neisser, and has been found present in the different manifestations of leprosy. Neisser succeeded in causing a leprosy nodule to grow in the subcutaneous tissue of two dogs. These leprosy bacilli are capable of producing spores by means of which they can be reproduced. Bacilli have also been found in glanders which are capable of cultivation and reintroduction into the system of the horse, with the effect of reproducing the disease.

The subject of the connection of organisms with disease is a large one, and growing constantly. Koch has proved himself the most thorough and reliable of those who have undertaken this study, and the knowledge which has been gained will not simply be for scientific accuracy, but will avail much in our subsequent efforts to cope with disease, since nothing is more essential to a correct prophylaxis than a true etiology.

CINCINNATI ACADEMY OF MEDICINE.

Stated Meeting, April 20, 1885.

The President, Samuel Nickles, M.D., in the Chair.

Dr. W. H. Wilder reported

A CASE OF FRACTURE OF THE BASE OF THE SKULL, WITH LOSS OF BRAIN SUBSTANCE THROUGH THE EAR; RECOVERY.

(See page 625.)

Dr. Ransohoff gave a brief history and the post-mortem record of a case which had been under his attention, in which a fracture of the base of the skull occurred in a woman, æt. 30, who threw herself from a window. There was extensive extravasation of blood into the eyelids and conjunctiva and vomiting of blood, but no hemorrhage from the ear. Four days after the injury the patient died. The autopsy revealed a fracture of the left frontal bone, passing backward across the greater wing of the sphenoid and the petrous portion of the temporal, opening the tympanum and exposing the ossicles of the ear. The membrana tympani was not ruptured. The case is interesting as an illustration of a small class of cases in which the tympanum is laid open, but the membrana is not ruptured, the blood passing into the mouth through the Eustachian tube.

Dr. Ransohoff cited two other cases of recovery following fracture of base of skull and escape of brain substance from the ear, which, he said, are recorded by Bergmann, and had escaped the notice of Dr. Wilder. He also thought that the hemorrhage attending injuries of the membrana tympani was not always slight and absolutely devoid of danger. As a rule it is slight, and when hemorrhage from the ear is excessive it is almost always associated with fracture of the base of the skull. Two cases, however, are reported in which hemorrhage from the ear terminated fatally, and the autopsy revealed no lesion, but rupture of the membrana tympani. Considerable specu lation had been indulged in to determine the exact seat of the fracture, and he thought Dr. Wilder was hardly justified in concluding that the fracture was limited to the point he mentioned, between the eminence for the superior semicircular canal and the line of junction of the squamous and petrous portions of the temporal bone. Dr. Ransohoff also mentioned a case recorded in a German surgical journal by Fischer, which was as interesting as the celebrated case recorded by Dr. Harlan, in which a crowbar was driven through a man's head. A man, while on a hunting expedition, had an iron ramrod accidentally fired through his head. It pierced the occipital bone on the left side, passed directly through the head, and emerged in the right frontal region. The patient was brought to Hanover, where Fischer saw him, and forced the ramrod out by blows with a hammer. He made an excellent recovery.

Dr. Taylor supplemented the previous speaker's remarks by the statement that the friends of the injured man, in their endeavors to extract the rod, had dragged him several yards over the ground.

Dr. Young said that, in military works, it is stated that there is no wound of the brain, however severe, that may not recover, and none so slight that may not terminate fatally. Cases in which balls have traversed the brain in various directions have recovered,—the ball being sometimes removed by trephining on the side opposite the wound of entrance. It therefore appears that patients with penetrating wounds of the skull may recover completely, or live a long time after the injury. He had met with two patients suffering from an injury of this character who had lived from the 15th of March to the 12th of April. Both had penetrating wounds with loss of brain tissue, but no paralysis or loss of consciousness. He had seen but one case recover where there was escape of blood from the ear.

He believed that many mistakes are made as to the diagnosis of the source of the hemorrhage.

Injuries to the base of the brain are naturally more fatal than are those in other regions. He had seen two men with fractures at the base of the skull who were affected with a disposition to perform rotatory movements. He remembered to have seen a negro woman who had sustained a fracture of the skull and the entrance of a piece of brick, and considerable dirt and hair, into the skull cavity. Together with this foreign material, about one or two drachms of brain tissue were removed, and the woman recovered, but with slight paralysis of the opposite side, which finally disappeared.

DR. ZENNER remarked that some of the cases are very remarkable, and yet the injuries themselves need not be considered fatal if the vital centres of the brain be not destroyed, and if subsequent hemorrhage or inflammation do not occur. The idea that such extensive injuries occur to the brain without subsequent impairment of intellect in some way is probably fallacious. Such cases, probably, never regain their former condition of intellectual power. The changes are manifested especially in the working capacity, both physical and mental, notably the latter. In a case like Dr. Wilder's, the injury to the brain is probably not limited to the exact location of the trauma, but involves distant parts of the convexity, as evidenced by the stupor and delirium.

DR. WILDER thought that his conclusions in regard to the location of the fracture were correct. The absence of paralysis of the seventh nerve until three days after the injury was proof positive that the nerve was not injured primarily. In attempting to use the ear speculum the canal was found to be almost closed by the superior wall (a condition of things which did not exist in the other ear), indicating that the force had acted diffusely from above, and concentrated upon this portion of the bone. It was not claimed that the fracture was *limited* to the part indicated; it may have extended in other directions, but must have existed somewhere in the anterior surface of the petrous bone, because the brain tissue escaped through the ear.

DR. RANSOHOFF said he had previously misunderstood the speaker, and supposed he had intended to convey the impression that the fracture was limited to the region of the tympanum.

MEDICAL SOCIETY OF THE STATE OF WEST VIRGINIA.

Eighteenth Annual Session, held at Weston, May 20 and 21, 1885.

(Specially reported for THE MEDICAL NEWS.)

WEDNESDAY, MAY 20TH.—FIRST DAY.

THE Society was called to order by THE PRESIDENT, DR. GEORGE BAIRD, of Wheeling, and the roll call showed thirty-seven members present.

DR. A. H. KUNST, Chairman of the Committee of Arrangements, delivered an address of welcome on behalf of the profession, and HON. R. W. STERLING, Mayor of Weston, gave the Society a welcome on behalf of the citizens. THE PRESIDENT then delivered

THE ANNUAL ADDRESS,

which was largely devoted to the consideration of sanitary questions. He referred to the good work inaugurated by the State Board of Health and its late efficient Secretary, Dr. J. E. Reeves. He condemned quackery of every form and kind, both in the regular profession and out of it, and gave some telling hits at the many mushroom specialists now abounding in every city and community.

THE TREASURER'S REPORT showed a balance of $158.76 in the Treasury.

THE SECRETARY REPORTED

a total membership of 116. He made several suggestions which resulted in the adoption by the Society of the following resolutions:

Resolved, That it is the sense of this Society that removal from the State forfeits membership, unless the member so removing continues to practise in the State, but under the Constitution—Art. X., Sec. 3—no non-resident member is eligible to election as an officer in the Society.

Resolved, That physicians who live near the border of this State in adjoining States, and whose practice may be partly in this State, are eligible to membership.

Resolved, That the communications from the Secretary of the Nebraska State Medical Society, touching interstate representation, be referred to a special committee consisting of Drs. Kunst, Shriver, and Dickey, to report at the next annual meeting.

A communication was received from the Department of Hygiene of the West Virginia Branch of the Women's Christian Temperance Union, asking the Society to appoint a committee to report at the next regular meeting on the injurious

EFFECTS OF ALCOHOL.

The communication was referred to a committee, who reported the following resolution without recommendation:

Resolved, That a committee be appointed, as requested, to prepare a report to be read at the next meeting of the Medical Society of the State of West Virginia, on the physiological effects of alcohol upon the human system, its hygienic uses, and its influence in the formation and hereditary transmission of mental, moral, and physical defects.

On motion of Dr. Harris, the motion was laid on the table.

A paper on *The Errors of Refraction* was read by Dr. John L. Dickey, of Wheeling.

DR. JOHN FRISSELL, of Wheeling, read a paper on

SOME THOUGHTS ON BLOODLETTING, AND THE USE OF THE OBSTETRIC FORCEPS.

He thought that venesection should be practised more frequently than it has been for many years. He cited cases from his own experience, which began more than fifty years ago, showing excellent results following very free bleeding. He condemned the use of the forceps except in very rare cases. He has himself used that instrument only about half a dozen times. He thought that opium, ergot, and time will generally obviate the necessity for using the forceps, to which he attributes cervical and perineal lacerations, and vesico-vaginal fistulæ.

DR. CHARTER, of West Union, stated that he had attended about two thousand labor cases, used the forceps but once, and had never lost a mother in childbed.

The sentiment of those who spoke was in favor of

venesection in puerperal eclampsia and other unusual cases, where depletion seems desirable. It was also overwhelmingly in favor of the judicious and skilful use of the forceps, which the members thought prevented and not caused vesical and rectal fistulæ.

THURSDAY, MAY 21ST.—SECOND DAY.

DR. FLEMING HOWELL, of Clarksburg, read the report of a

CASE ILLUSTRATING THE USE OF CARBOLIZED CATGUT LIGATURE IN SECURING UNION OF DIVIDED TENDONS.

The case was briefly as follows: A policeman had a cut an inch and a half long, extending obliquely across the back part of the thumb, dividing completely the tendon of the long extensor of the thumb, with its sheath. The ends of the divided tendon were at once united with fine carbolized catgut; the divided sheath was then united in the same manner, and the external wound closed. He was at once able to extend the thumb, which, of course, he could not do before. A splint was applied so as to keep the thumb extended. The wound healed promptly, and the thumb is as sound and useful as before the injury.

DR. D. PORTER MORGAN, of Clarksburg, read a paper on

OPERATIONS IN MALIGNANT DISEASE.

The subject was discussed by many of the members, nearly all agreeing with the writer of the paper in the propriety of the early removal of malignant growths, or even those of a doubtful nature, if removal is practicable.

DR. T. A. HARRIS, of Parkersburg, read a paper entitled *Mens Sana in Corpore Sano.*

A paper on *The Signs of Impending Death*, by Dr. T. R. Evans, of Nuttalsburg, was in his absence read by the Secretary.

The Society then proceeded to the

ELECTION OF OFFICERS,

which resulted as follows:

President.—Dr. T. A. Harris, of Parkersburg.

Vice-Presidents.—Dr. A. H. Kunst, of Weston; Dr. J. F. Lanham, of Newburg; Dr. J. L. Fullerton, of Charleston.

Secretary.—Dr. Samuel L. Jepson, of Wheeling.

Treasurer.—Dr. John A. Campbell of Wheeling.

Board of Censors.—Drs. John L. Dickey, C. C. Hersman, J. T. Carter, H. N. Mackey, A. F. Stifel, Fleming Howell, and L. D. Wilson.

Charleston, Kanawha County, now the capital of the State, was unanimously chosen as the *next place of meeting*, and Dr. J. L. Fullerton, of that city, was appointed Chairman of the Committee of Arrangements.

After the usual votes of thanks for courtesies extended, the Society adjourned.

THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

Thirty-sixth Annual Meeting, held at Scranton, May 27, 28, and 29, 1885.

(Specially reported for THE MEDICAL NEWS.)

THE PRESIDENT, DR. EZRA P. ALLEN, of Athens, Bradford Co., occupied the Chair, and called the Society to order.

DR. I. F. EVERHART, Chairman of the Committee of Arrangements, delivered an address of welcome on behalf of the profession of Scranton, and the Hon. Alfred Hand on behalf of its citizens.

DR. HENRY H. SMITH, of Philadelphia, announced the receipt of a telegram from Harrisburg stating the passage of the Bill for the establishment of a

STATE BOARD OF HEALTH.

The following resolutions were then adopted:

Resolved, That this Society has learned with great satisfaction of the final passage through the Legislature of this State, of the Act to create a State Board of Health, and that it hereby tenders its thanks to the Hon. Robert Adams, Jr., Senator from Philadelphia, and to the Hon. Henry K. Boyer, Representative from Philadelphia, for their earnest, untiring, and successful efforts to secure to the people of this great Commonwealth so important a safeguard as is anticipated from the organization of this Board.

The Committee on the State Board of Health presented its report, and on motion it was accepted, and the expenses of the Committee, $49.25, ordered to be paid, and the Committee was discharged with the thanks of the Society.

The next order of business was the consideration of the

AMENDMENT TO THE CONSTITUTION,

presented by Dr. Allis (see page 46 of the volume of *Transactions*, for 1884). After the reading of a letter from Dr. Allis advocating their adoption, the amendments were laid upon the table.

DR. TYSON, of Philadelphia, on behalf of the Committe on the

COLLECTIVE INVESTIGATION OF DISEASE,

read a preliminary report on pneumonia based upon returns from sixty cases which occurred up to May 1st.

MEDICAL LEGISLATION.

DR. H. H. SMITH, of Philadelphia, offered the following:

Resolved, That any county society that shall hereafter seek general medical legislation at Harrisburg, without previously obtaining the consent thereto of the Medical Society of the State of Pennsylvania, shall forfeit all its privileges and connection with this Society, until relieved from their contempt by the report of the action of the Judicial Council.

DR. TRAILL GREEN, of Easton, favored the resolutions heartily, and was especially glad there was a penalty attached to them.

DR. J. SOLIS COHEN, of Philadelphia, moved that the following clause be introduced after the word Harrisburg —"which shall compromise the interests of the State Society."

A general discussion followed, after which the amendment was laid upon the table.

The original motion, which was stated by Dr. Smith to be a standing resolution, not a by-law, was then adopted.

DR. S. S. SCHULTZ, of Danville, in the absence of Dr. John C. Curwen, then read the report of the

COMMITTEE ON LUNACY AND IDIOCY.

The Committee report that, though a large number of questions calculated to obtain histories of different forms

of mental disorder, were sent out to members of the profession in different parts of the State, the answers received have been so few that, though they are excellent in themselves, they are not sufficient for purposes of generalization, and the Committee begged leave to present the following report on the general

MANAGEMENT AND TREATMENT OF MENTAL DISORDERS IN THE EARLY STAGE,

in place of the report on different forms and characters of mental disorders.

Treatment, in the earliest stages is important and essential to restoration — the earliest symptoms are peculiar restlessness, and singular ideas and actions. These may be slight—but, when out of the usual course of conduct and mental action, they must be considered as indication of disordered action, and if allowed to progress more serious disorders must be soon anticipated.

Inability to attend to casual duties, loss of sleep, failure of appetite, etc., are other symptoms, but the most serious is loss of sleep. Sedatives and narcotics are not the most efficient means to effect a cure of these symptoms. If their use be continued for some time, they are apt to lead to a habit of reliance on them, which, after a time completely enslaves the patient and leads to serious disorders of the stomach and constipation; and they produce such a state of the nervous system as greatly interferes with the processes of assimilation and creates a morbid condition, for which no special name has yet been found, but which is of serious import to the continuance of healthy action.

The whole system, or more particularly the nervous system, is in an asthenic state which cannot be relieved, but is rather increased by sedatives and narcotics, so that other more efficient means must be used to build up and produce a more healthy action and condition. Care must be taken to relieve constipation which is so constant a concomitant of each case, and this must be done in the first place by the use of such medicines as will act on all the internal organs, and after their free operation, dependence must be placed on diet; the use of such articles as are nutritious and at the same time have a relaxing influence, as oatmeal Graham bread, fruit, etc., and above all, insisting on the establishment of regularity in the time of visiting the closet, fixing the specified hour and adhering to it very steadily.

Massage over the region of the colon, and a plain, nutritious diet of meat and vegetables at regular times, are important. Too much stress is often laid on exercise. Asthenic cases should husband their strength, and strength must not be sought at the expense of nerve power.

It may be necessary, at the commencement of treatment, to give sedatives to produce sleep, but such should not be continued steadily.

One great deficiency, to judge from what has come within the writer's experience, arises from the disposition to be constantly changing the form and character of the medicine, not giving any one sufficient trial to produce a decided result. It may take days or weeks to produce a decided effect, and the patient must be urged to persist in the treatment prescribed.. Pyrophosphate of iron is cheap, soluble, and pleasant to the taste, especially when combined with compound tincture of gentian. The use of stimulants should be ordered in asthenic cases. They may produce a temporary feeling of relief, but afterwards the immediate condition is rather increased or made more sensible to the individual.

AFTERNOON SESSION.

Dr. S. S. Schultz, of Danville, delivered the *Address on Mental Disorders.*

Dr. J. G. Richardson, of Philadelphia, then delivered the *Address on Hygiene and State Medicine.*

Dr. Charles S. Turnbull, of Philadelphia, then delivered the

ADDRESS IN OTOLOGY.

He deprecated syringing, and the use of water in any way, in connection with cleansing of the external auditory meatus. He urged parents to cease their efforts to cleanse children's ears by the use of soap and water, twisted up corners of wet towels, handkerchiefs, etc. One especially valuable hint to mothers, as well as to those who are to advise them, is that concerning the rearing of young children, whose noses are usually allowed to take care of themselves. Every child should be taught to blow its nose. If it has not been or cannot be taught to free the nostrils of mucus, its chances for retaining hearing power in case of acute or subacute disease of the middle ear, are much poorer than in the case of one who has learned to blow its nose. Handicapped by being unable thus to free its nostrils, a child cannot possibly inflate the tympanum or middle ear, and clear the Eustachian tubes, so that the dread exanthema must as a rule mean deafness. Forcible dilation, by Politzer's method, is generally sufficient in the case of adults, but will not answer for children, who only become demoralized and terrified by the presence of any one who has been so injudicious as to attempt its use. For children he recommends one nozzle of an ordinary auscultation tube, protected by a perforated "lead pencil rubber cap," slipped upside down over it. This is called the nose-piece, and can be held firmly, as it plugs one nostril, and acts as a point of support upon which to close the other. As the child cries lustily or else blows out, (as if to blow out a light) the surgeon having the nozzle at the other end of the tube, in his mouth, blows a quick, short blast which invariably inflates both ears. Once assured that the procedure does not cause them pain, children enter into the spirit of it, and blow with a will.

The great secret in the treatment of all discharges from the ears, is dependent upon the fact that fermentation and putrefaction soon occur in the moist auditory meatus. So long as a discharge is not allowed to ferment it will not become fetid, seldom even purulent.

Eczema (otitis externa eczematosa) of the auricle, and external auditory meatus, whether in a child or in an adult, is generally a disease of neglect or injudicious interference. In children it is apt to be the former cause, in adults the latter, but it is usually induced by the use of soap; in adults it is generally caused by meddlesome attempts at ablution. In children eczema readily yields to treatment, providing soap and water be left out of the question, while in adults it is more persistent and stubborn, recurring monthly, perhaps, for several years. Mild cases yield to the constant application of a weak mercurial ointment, while chronic

cases require the application of a saturated solution of nitrate of silver.

Boric acid, if properly used, still holds its own as a specific for chronic otorrhœa, but not for acute otorrhœa (except when the discharge is fetid). This latter class of cases calls for an "aqueous boracic acid solution."

In the treatment of "tinnitus aurium" the different preparations of the erythroxylon coca are to be especially lauded, not only because of their direct local effect on the throat and rhinopharynx, but also for their anæsthetic effect on the mucous membranes generally. In this connection, hydrobromic acid in conjunction with bromide of sodium is not to be forgotten, especially in cases of tinnitus due to disorders of cerebral circulation dependent upon nervous irritation.

Dr. Turnbull called especial attention to a disease (not unlike boiler-maker's deafness) which he styles "mill-operative's deafness." This is a disease of the auditory nerve, caused by a prolonged succession of concussions (erschütterung) and irritation from the rattle and din of machinery, the first grave and characteristic symptom of which is the power of being able to hear distinctly only when in a noise.

DR. EDWARD JACKSON, of Philadelphia, read a paper on the

DIAGNOSIS OF INCIPIENT CATARACT.

Cataract, though perfectly amenable to treatment, is still one of the most dreaded diseases of the eye. This is mainly because it is blamed for the effects of other lesions. This would be largely avoided if practitioners of medicine were generally more skilful in its diagnosis. Subjective symptoms are of little importance except as they point to other affections complicating cataract. In this connection it should always be borne in mind that the uncomplicated advance of cataract is absolutely painless. The results of examination of the pupil by oblique illumination are often inconclusive or unreliable. The best way to detect partial opacity of the crystalline is to throw into the eye the light from an ophthalmoscope mirror, and then to look at the general red glare obtained from the back part of the eye. In doing this, the surgeon looks through the suspected lens, and all opaque portions become noticeable as black spots, lines, or patches in the red circle of the pupil. For such an examination no costly ophthalmoscope is needed. Any piece of looking glass, with a hole scraped in the silvering for the observer to look through, suffices perfectly.

But when lens opacity has been recognized, the diagnosis of cataract is only just begun. The practical question is, Does the lens opacity cause the symptoms complained of? Incipient cataract may be present and cause no inconvenience whatever. On the other hand, when cataract exists other lesions of the eye—nerve atrophy, choroiditis, or ametropia—are very apt to be present. The complete diagnosis of cataract demands ability to recognize all conditions that may impair vision, with the judgment and information necessary to assign to each its proper share in the causation of the patient's symptoms. The best measure of the extent to which lens opacity interferes with a patient's seeing is the extent to which it interferes with the surgeon's inspection of the optic disk and retinal vessels of the affected eye.

DR. PETER KEYSER, of Philadelphia, read a communication from a Committee of the Lackawanna County Medical Society relative to the case of a man in Scranton, who had registered a diploma from the Western Reserve College endorsed by the Dean of the Homœopathic College of Philadelphia. He then offered a resolution condemning the endorsement of such diplomas.

DR. BISHOP replied that the men who will endorse diplomas of no value, would pay no respect to the wishes of this Society.

Upon motion of Dr. Bishop, the resolution was laid over until to-morrow morning.

Adjourned.

THURSDAY, MAY 28TH.—SECOND DAY.

MORNING SESSION.

DR. EDWARD JACKSON, of Chester Co., read the report of the Committee on

MEDICAL EDUCATION,

appointed to prevent downward competition in the granting of a State license; to relieve medical schools of the degrading influence such competition exerts; to regulate the licensing of those obtaining the medical degree from institutions outside the State; to guard by publicity and direct control against abuse of the licensing power, and to insure the efficient administration of laws looking to these ends. The report recommends that this Society endorse and advocate before the people of Pennsylvania and their representatives in the State Legislature the following propositions:

First. The sole power of granting license to practise medicine in Pennsylvania should be vested in a single board.

Second. This board should have no connection with any corporation engaged in medical teaching.

Third. The doings of this board, including the determination of the fitness of applicants for the license to practise, should be public and matters of record, and the records open to public inspection.

Fourth. To secure the efficiency of the board against incompetent membership, and the undue pressure of partisian politics, the medical profession or its representatives, should nominate to the Governor a list of persons qualified to perform its duties, from which list the board should be appointed.

It is also recommended that a committee be appointed to prepare, in accordance with the views of this Society, a form of bill suitable for presentation to the next biennial session of the Legislature, and report the same to the next annual meeting.

DR. H. H. SMITH, of Philadelphia, moved that the resolutions of the Committee be taken up seriatim. Carried.

DR. SOLIS COHEN, of Philadelphia, offered, as an amendment, to insert the word "regular" in the first resolution, so as to make the resolution read, "The sole power of granting license to practise regular medicine," etc. He said this will prevent the practice of anything else, otherwise we have to associate with homœopaths, eclectics, etc., with whom we do not affiliate.

DR. R. S. SUTTON, of Pittsburg, could not see how the amendment would improve affairs. He did not believe that the Legislature of this State would pass any such law as the amendment proposed.

Dr. E. A. Wood, of Pittsburg, said that no law ever became beneficial which was not from the people, and he thought this Society ought simply to ask for legislation for our own school which will control our own ranks, and wait for the voice of the people for more.

Dr. Jackson, of Chester, said that to ask for legislation for ourselves only would be impertinence on our part. The question is for the good of the community. On *à priori* grounds the original resolution is better than the amendment. In California and Kansas there is a mixed board. Should we adopt the amendment we would defeat our own object. The medical laws of Canada allow a mixed board.

Prof. Osler, of Philadelphia, upon request, briefly related the effect of the laws in Canada. In Ontario a mixed board of regulars, homœopaths and eclectics, was instituted twenty years ago. The basis of the board was its being appointed by the profession. The examinations are of threefold nature: 1st, a preliminary examination on preliminary branches; 2d, examination on branches common to all schools; 3d, one on therapeutics and practice by each school. This has worked admirably, the eclectics have been abolished, and the homœopaths have been decreased, for the reason that it requires a four years' preliminary education. In Quebec, the population being chiefly composed of French-Canadians, the people are all very rugged, and the homœopathic medicines are of no avail in treatment, hence there are but very few homœopaths there. Concerning an inquiry by Dr. Smith as to whether the difference in the Government of Canada and the United States would not make a difference, he said none whatever, because the board is wholly under the control of the profession.

Dr. Traill Green said he thought the Society should not be in a hurry to act on these resolutions, but sleep over them three hundred and sixty-five nights, and appoint a committee to draft a form of bill to be discussed at the next meeting.

Dr. John B. Roberts, of Philadelphia, spoke against the amendment, saying, if we cannot take care of ourselves without the Legislature and the Governor he did not wish to practise. He placed it on higher grounds, and would advocate a proposition for the protection of life and health. We must have a board to do this, and he did not think that the association with members of irregular schools would have any bad effect. There are but two unmixed boards in the United States (Virginia and West Virginia).

Dr. Tyson, of Philadelphia, also spoke in favor of a board which should be entirely independent of the colleges.

On motion, the amendment was laid on the table.

Dr. W. D. Kearns, of Pittsburg, moved to postpone the further consideration of the report until next year. Lost.

The first resolution was then taken up and carried.

The other resolutions were then adopted seriatim.

The Secretary stated that at the last meeting of the American Medical Association an act for the establishment of a

STATE BOARDS OF EXAMINERS

was prepared for submission to each State Society for their views upon it. He read a draft of the same.

On motion it was referred to a special committe. of five. The Chair appointed the following: Drs. Shakespeare, of Philadelphia, Orth, of Harrisburg, Everhart, of Scranton, Breinig, of Bethlehem, and Price, of West Chester.

On motion, the Committee on Medical Education was continued for another year.

Dr. Taylor, of Wilkesbarre, then read a paper on *The Plymouth Epidemic*.

Dr. French, of Philadelphia, followed with a paper prepared by Dr. Shakespeare and himself on the same subject.

AFTERNOON SESSION.

The report of the Nominating Committee was read, and on its adoption the following were elected

OFFICERS FOR THE ENSUING YEAR:

President.—E. A. Wood, M.D., of Allegheny County.

Vice-Presidents.—Hiram McGowen, M.D., of Dauphin County; E. J. Russ, M.D., of Elk County; A. H. Sheaffer, M.D., of Mifflin County; and C. C. Halsey, M.D., of Susquehanna County.

Permanent Secretary.—W. B. Atkinson, M.D., of Philadelphia.

Recording Secretary.—G. D. Nutt, M.D., of Lycoming County.

Corresponding Secretary.—J. H. Musser, M.D., of Philadelphia.

Treasurer.—Benjamin Lee, M.D., of Philadelphia.

Members of the Judicial Council.—J. L. Stewart, M.D., of Erie County; S. S. Schultz, M.D., of Montour County; and Henry H. Smith, M.D., of Philadelphia.

Chairman of Committee of Arrangements for next Meeting.—T. H. Helsby, M.D., of Williamsport.

The next meeting will be held on the first Wednesday of June, 1886, at 9 A.M., in Williamsport.

THE ADDRESS IN MEDICINE.

was then read by Dr. E. T. Bruen, of Philadelphia.

In tubercular disease, he said, it has been established that a microörganism, the bacillus of tuberculosis, is constantly present. The inoculability of the tubercular material from pure cultures is also proven, and its causal importance is claimed by an increasing number of clinicians and pathologists. It is, however, a fact that healthy tissue can resist the inroads of the microbe, and constitutional predisposition or acquired ill-health is a constant source of menace if the new etiology should prevail. But there also exist cases of abdominal tuberculosis without pulmonary lesion, and even cases of cheesy degeneration in the lungs, in which the bacillus is not present, however careful the search. These cases radiate foci of infection through the lymphatic channels, and in this manner differ from a case of tubercular matter in which a bacillus exists, for in the latter case the entire system may be involved. There also exist the forms of interstitial phthisis, known as pneumonokoniosis or artisan's phthisis, in which the appearances are often very similar to the admittedly tubercular forms, but which are minus the bacillus.

Some personal views were expressed as to the diagnosis of friction over the pericardium, viz.: (*a*) They were synchronous with the movements rather than the sounds of the heart. (*b*) They were superficial sounds often accompanied by a fremitus. (*c*) Change of pos-

ture induces an increase of murmur. (*d*) The alterations common to the walls of the heart in endocardial disease were absent. The above were usually noted, but especial importance was laid upon the location of maximum intensity of a murmur in pericarditis which does not correspond with a valve point. The pericardial murmurs also change their focus of maximum intensity very often.

In alluding to antipyrine, it was described as undoubtedly efficient as an agent to reduce temperature, which continued to fall for about six hours after the exhibition of one or two doses. The objection to its use is the profuse exhausting perspirations to which it gives rise, and it also produced a depressing effect upon the heart, though the latter is less than the depressant effect produced by others of the carbolic acid series. The usual dose employed by the speaker is ten grains, as the strength of antipyrine is about twice that of quinine. Nitro-glycerine had been found valuable in lessening albuminuria associated with increased arterial tension, but its use must be watched, since it is possible that the reduction of arterial tension may be so great as to impair the cardiac power so essential to perfect circulation in renal processes, and thus albuminuria from feeble circulation would occur. Nitro-glycerine was also considered as very useful in renal asthma. Caffeine was a safe cardiac stimulant and diuretic. The dose should range between eight to twelve grains daily. A peculiar fanciful delirium, like that produced by excessive amounts of belladonna, was described as an occasional symptom when caffeine had been used continuously; the mental equilibrium is speedily restored when the use of the drug is suspended.

DR. H. H. SMITH, of Philadelphia, read a paper on

THE NON-CONTAGIOUSNESS OF CHOLERA.

DR. SHAKESPEARE, of Philadelphia expressed himself as heartily in accord with the author except as to the question of non-contagion; strictly, that is right, as it is not directly contagious. He thought, however, that it is indirectly transmissible from person to person. The fact that persons working about cholera patients do not contract the disease merely proves that it is non-contagious through the air. Observations are overwhelming which prove that cholera has a virulent infectious agent, which enters the water or food and the body through them by the oral passages or stomach. The susceptibility lies in disorders of the digestive system, which explains why drunkards are so susceptible to it, as was demonstrated in Europe last year. As to the comma-bacilli, the profession must be able to distinguish the varieties. In the advocation of measures for the protection of the public, it is well to allay the fears of the people, but the only way to reach proper legislation on the matter is to create popular sentiment in favor of it. Neither Koch nor any one else would say that any disinfectant will reach the special organism of cholera when once in the body, and it is unfair to demand that of Koch.

DR. VARIAN, of Crawford, stated that his experience made him coincide with the non-contagionists, but he believed that the comma-bacilli from the excreta of patients of cholera acted upon by fermentation and brought in contact with the water or food will generate cholera. It matters but little how we get cholera, whether by immediate contact or through the food, our duty is to seek how to keep the contagium outside the body, and he thought this can be done by a proper mode of living, and by avoiding alarm and panic, with their influence upon the nervous system. The simple application of heat will destroy the cholera contagium.

DR. HEEBNER, of Scranton, called attention to the fact that the cholera germ is supposed by good authorities to be killed by putrefaction.

DR. W. F. WAUGH, of Philadelphia, read a paper on

A NEW TREATMENT OF THE ALCOHOL HABIT.

The treatment of acute alcoholism, he said, is generally successful; but, except in a very few cases, the patient relapses into inebriety, and finally dies a drunkard. The disease is not, however, essentially incurable; for cases *do* sometimes recover permanently. The causes of the relapses are:

1. Previously existing disease, which led to drink.
2. Overwork, especially when combined with illness.
3. Gastric catarrh, due to alcohol.
4. Catarrh of the mouth, due to the same cause. This is the form which is popularly cured by using liquor as a gargle, instead of drinking it.
5. The depression due to the withdrawal of the accustomed stimulus.

In the first and second classes, the recognition of the cause affords the indication for treatment.

In the third class, the remedies recommended are hot water with soda before meals, oxide of silver, oxide of zinc, or bismuth following, and minute doses of ipecacuanha to restore the secretion of the digestive glands.

In the fourth and fifth classes, the use of coca is recommended, in the form of a masticatory; to obtain the local effect on the mouth, as well as the constitutional effect, in relieving the depression. The object is to substitute for the alcohol habit the harmless habit of chewing coca. The food should be carefully regulated, and should at first consist of raw oysters or beef, with capsicum and vinegar, pickled tripe or pig's feet. If the patient has passed the point when he still desires to be cured, and is unwilling to make an effort, he should be put under restraint; preferably in an institution where he could be compelled to earn his livelihood, instead of spending the time in enervating idleness.

DR. SPENCER M. FREE, of Dagus Mines, read a paper on *Morphia in Cholera Infantum*.

DR. JOHN H. PACKARD, of Philadelphia, presented a paper on

A NEW TRACHEOTOMY TUBE,

and demonstrated the use of a new apparatus for keeping the opening patulous.

PROF. PANCOAST stated that for years he had given up the use of the tracheotomy tube. The trachea is an open tube, the rings are its skeleton, take away one-half those rings, and the trachea still maintains its conformity. To put a tube in a tube seemed to him absurd, and it is only a source of irritation. He splits one or two rings and keeps the opening patulous by wires about the neck, the ends simply drawing asunder the sides of the opening. Sometimes he cuts an oval opening in the trachea.

Dr. Packard thought that as all surgeons are not able dexterously to cut out an oval piece from the trachea, the best rule is to make a lineal incision, and he

thought his instrument better than the tube, if for no other reason, than because it has not to be taken out, and is easy of insertion.

DISCUSSION OF THE PLYMOUTH EPIDEMIC.

Dr. Shakespeare, of Philadelphia, thought that the Plymouth epidemic is a clinching argument in favor of the specific nature of typhoid fever, and that it requires the specific germ or poison to start it. This has a very important bearing. It specifies that the specific cause is elaborated in the gut, and passes from the bowel, and through carlessness in disinfection reaches various things which, in turn, infect the community. Again it shows the absolute importance of precautions to kill the poison. Efficient means will prevent the transmission of the typhoid germ. He thought that printed rules for disinfection should be distributed among the people. The water should be boiled, food thoroughly cooked, milk boiled, culinary utensils, etc., all should be boiled in water of a temperature over 212° Far., for at least half an hour. The profession should instruct the laity on these subjects. A few days ago in visiting Plymouth he found only limited means of disinfection being used. If all the above measures were carried out, he thought the epidemic would cease. The lesson which this epidemic has taught the profession is that no case of typhoid fever, no matter where it be found, should be allowed to run its course without every evacuation being disinfected.

In the evening Dr. Allen delivered *The Presidential Address*

Friday, May 29th.—Third Day.

Morning Session.

Dr. C. A. Rahter, of Harrisburg, not being present, his *Address on Obstetrics* was read by title.

Dr. W. D. Kearns, of Pittsburg, read a paper on

RETROFLEXED SPLINTS FOR FRACTURES OF THE FOREARM.

which, it was claimed, give greater ease to the patient and efficiency in causing the parts to knit and heal in proper shape. In his experience he has found that in many, if not most, cases of fracture of the forearm or wrist, the splint should be applied so that the metacarpal phalanges of the hand may be bent upward from the plane of the arm, at an angle of about 122°, and that it should be left as free to move as possible. This is about the natural inclination of the human hand, or that in which the posterior muscular tendons are most completely relaxed, and the continued maintenance of this relaxation of the several tendons, fasciæ, and ligaments is of paramount importance in the class of fractures above noted. It is the purpose of this splint to secure these points of advantage, and especially to effect a ready and comfortable maintenance of the required muscular relaxation of the extensors and flexors to their insertion along the phalanges, and of the muscles and fasciæ of the hand and thumb.

Dr. John H. Packard, of Philadelphia, said that in Colles's fracture the immediate bandage does no harm, neither does it do good. If reduction is thoroughly accomplished, it is very seldom that displacement will recur, and almost anything will hold the ends in place.

Dr. J. B. Roberts, of Philadelphia, thought that permanent disability after these fractures was much more common than Dr. Packard would have us think. He believed that Bond's splint was the cause of many deformities, and he coincided with the idea that a simple Colles's fracture once thoroughly reduced needs no splint.

The Special Committee, to which was referred the communication from the American Medical Association concerning

A STATE BOARD OF MEDICAL EXAMINERS,

reported the act back to the Society with the recommendation that it be referred to the Committee on Medical Education, with the request to take it into consideration when framing a bill.

Dr. Solis Cohen thought the American Medical Association should receive an answer from this Society to its communication.

After considerable discussion the following was adopted:

Resolved, That the Secretary of this Society report to the American Medical Association that the Medical Society of the State of Pennsylvania had adopted its recommendation.

On motion, the resolution passed last year, forbidding the

PUBLICATION OF PAPERS

read before this Society, was rescinded.

Dr. Chas. Meigs Wilson, of Philadelphia, read a paper on *Mechanical Dilatation of the Uterus.*

Dr. E. A. Wood, of Pittsburg, then read *The Address in Surgery.*

Dr. Hewson, of Philadelphia, then read a paper on *The Topical Uses of Earth*, and also gave a demonstration of the *Use of the Electric Light in Diagnosis.*

PUBLICATION OF THE PROCEEDINGS.

The following resolutions were then introduced:

Resolved, That the proceedings of this Society be published in some medical journal of the State.

Resolved, That the Publication Committee are hereby authorized to receive proposals and award the publication to the lowest bidder, and that the journal so selected shall be regarded as the official organ of this Society.

Laid over for one year.

TRAINING SCHOOLS FOR NURSES.

Dr. Musser, of Philadelphia, offered the following resolutions, which were adopted:

Whereas, The State Society of Pennsylvania, in session in Scranton, have learned of the efforts of the management of the Blockley Hospital to establish a training school for nurses, and, whereas, the establishment of a temporary hospital in the fever-stricken districts of Plymouth has been the first practical outcome of their efforts, therefore be it

Resolved, That this Society extend its thanks to the Board of Guardians for its timely and valuable assistance, and most cordially endorse its efforts to establish a training school.

REGISTRATION OF DIPLOMAS.

Dr. Keyser, of Philadelphia, offered the following:

Resolved, That it is the sense of this Society that all diplomas from medical schools in any other State or

country than this, on being registered in this State should be endorsed only by a school of the same system of study and practice as the school granting the diploma.

Resolved, That a copy of this resolution be sent to the prothonotary of every county and to all the medical schools in the State. Adopted.

AFTERNOON SESSION.

DR. H. R. WHARTON, of Philadelphia, read a paper on

OSTEOTOMY FOR CORRECTION OF DEFORMITIES IN LOWER EXTREMITIES.

Under the general remarks upon osteotomy, attention was directed to the two methods employed, the linear and cuneiform operations, and preference was given to the former where possible, as it consists in a simple section of the bone and practically constitutes a subcutaneous operation, whereas the cuneiform operation, in which a wedge of bone is removed, necessitates an open wound with its attending dangers. The use of the osteotome or the saw rests with the choice of individual operators. The importance of making a full correction at the time of operation was insisted upon, especially if a fixed dressing be afterwards employed.

Among the causes which produce deformities for which osteotomy may be required are those arising from rachitis, from coxalgia, from badly united fracture, or from unreduced dislocation, and of all these, the vast majority of cases requiring operation are due to the first-named cause.

For the correction of angular deformities at the hip-joint, resulting from coxalgia, Gant's modification of Adams's operation is preferred; that is, a section of the femur just below the lesser trochanter. This operation is preferred because a section of the bone at this point secures its division at a locality where its structure is comparatively healthy, whereas its division through the diseased structure of the neck if it still exists is capable of renewing an active inflammation in tissues which are most susceptible to inflammatory accidents following traumatisms. Also from the fact that the shaft of the femur can no longer be influenced by the action of the psoas magnus and iliacus muscles, the chances to recorrect deformity are less when the section is made at this situation.

Adams's saw has, in the author's experience, formed a most satisfactory instrument, although some operators speak with equal favor of the use of the osteotome in performing these sections.

The fact that no case has resulted fatally in a large number of cases in the author's experience, speaks well for the general safety of the operation. The results obtained as regards the correction of the deformity are most satisfactory. The various operations which have been devised for the correction of the deformity resulting from *genu valgum*, were considered, and preference was given to Mac Ewen's operation, which consists of a linear section of the femur made from the inner side of the thigh, with the osteotome, just above the epiphyseal line. The ease of its performance, the fact that the section is made at some distance above the knee-joint just above the epiphyseal line, so that the articular surfaces of the bone and the ligaments can sustain no injury, and the satisfactory results as regards the correction of the deformity, are all circumstances which recommend it over the various other operations.

The various osteotomies for the deformity resulting from ankylosis of the knee-joint were considered, and that devised by Mr. Barwell, a linear section of the femur just above the knee-joint combined with a section of the tibia through its tubercle, has been found most efficient in correcting the deformity.

In genu varum a linear section of the tibia, fibula, and femur, with an osteotome at the point of greatest curvature has been found a safe and efficient means of correcting the deformity.

In tibial curves, a linear osteotomy at the point of greatest curvature, or, in very aggravated cases, a number of linear osteotomies, or the removal of a wedge of bone, may be required to produce the requisite straightening.

The use of the plaster-of-Paris dressing to fix the parts after the operation is strongly recommended.

DR. BENJ. LEE, of Philadelphia, read a paper on

"NIL DESPERANDUM" IN SPINAL CARIES.

There are two points that can never be too strongly insisted on in reference to the treatment of spinal caries, or Pott's disease of the spine: First, that it is never too early to begin the employment of mechanical support of the most decided character; and, second, that it is *never too late*.

The wearing of an artificial support, properly contrived, for a few months, can do the patient no harm if the spine is not diseased, but neglect on the part of the physician to advise a resort to this means of treatment when such disease is present will lead to irreparable injury to the patient, and a loss of prestige to the physician himself. It is perfectly easy to recognize the disease long before any deformity shows itself. The principal signs are: sudden attacks of cramping pain in the abdomen or sides, great stiffness on waking in the morning, and inability to stoop forward and touch the floor. There is not generally pain or tenderness in the back, and it is a great mistake to pronounce that there is nothing the matter with the spine because that symptom is absent. If the patient is able to walk, he will turn in one or both toes, and hold his shoulders back and up rigidly. If an infant, it will scream on being moved and lifted. The disease often follows an attack of whooping cough, and can frequently be traced to a fall or other injury. It is *never too late* to begin with the use of mechanical supports. It is the greatest possible error to suppose that strength is needed on the part of the patient in order to bear the application of a surgical appliance. When the vital energies are slowly wasting away in consequence of a local source of irritation, the mechanical support is the plug which stops the leak. Without this, internal medication is as vain as the labors of the fifty daughters of King Danaus, condemned to expiate the awful crime of murdering their husbands on their nuptial night, by filling eternally with water a vessel full of holes.

After the adoption of the usual resolutions of thanks, the Society adjourned to meet at Williamsport on the first Wednesday in June, 1886.

CORRESPONDENCE.

A VISIT TO PROF. MIGUEL'S LABORATORY.

Your correspondent sailed from New York on the French steamer "La Normandie" on the 29th of April, and arrived at Havre on the morning of May 8th. At 1 o'clock on the same day the passengers of "La Normandie" were landed in Paris by a special train, which is dispatched upon the arrival of each transatlantic steamer. As my time in Paris was limited, and my principal object in remaining for two or three days in this city was to visit the laboratories of Pasteur and of Miguel, I hastened to put myself in communication with the last-named *savant*, who was known to me not only by reputation, but also through correspondence with our mutual friend, Dr. Maddox, of London, who, as Miguel expresses it, is the father of modern aëroscopy, and who has also been very successful in photographing bacteria, and is *au fait* in all that is being done in the different biological laboratories in various parts of the world, where bacteria are especially studied.

Dr. Miguel responded promptly to my letter and, by appointment, I visited his laboratory at the Observatory of Montsouris, on Monday morning, May 10th. He was kind enough to show me in detail his methods, and to give me a summary of the results thus far obtained in his studies of atmospheric organisms. These results have been given in full in the annual reports of the Observatory with which he is connected, and in his book published about a year ago. The results obtained are extremely interesting and of considerable scientific value, but it must be admitted that the painstaking researches thus far made by this very patient and conscientious observer, and by others who have preceded him in this line of study, have not yet been fruitful in practical results. *A priori* it would seem that the presence of disease germs should, by a carefully made research, be demonstrated in an "infected atmosphere." But, as a matter of fact, no disease germ has as yet been discovered by this method, and all exact knowledge of pathogenic organisms which we now possess has been obtained by seeking them in the tissues, fluids, and excretions of infected individuals.

The writer was very much influenced by this idea of finding disease germs in the air when he commenced his bacteriological studies at Havana, in 1879, and much time was spent in this way, which might have been more profitably employed in more direct researches. Atmospheric organisms were collected by various methods in the hospitals, in sewers, on ships, and wherever there was a suspicion that the atmosphere might be infected by the "germ" of yellow fever, but among the crowd of organisms, such as pollen grains, spores of fungi, starch granules, etc., nothing was encountered which seemed to have any special significance with reference to the question under investigation.

Again, in 1880, in New Orleans, I studied the organisms suspended in the atmosphere in the streets, the cemeteries, the hospitals, etc., with a view to making myself familiar with the flora of the atmosphere in the absence of any epidemic disease and thus, if possible, being prepared subsequently to recognize any foreign morbific germ which might be present during an epidemic. These studies simply served to convince me that this method of research was invested with so many technical difficulties, complications, and possibilities of error, that I would spend my time more profitably in seeking disease germs at their source, for, after all, so far as we know, they, as well as the other organisms present in the atmosphere, are simply there as the result of accident; that is to say, they do not find their normal habitat in the atmosphere and multiply there; but they are simple wafted about by the wind when the material containing them becomes desiccated, and is raised from the surface of the earth, or is shed from the surface of the body of infected individuals. In this respect they do not differ from the inorganic material known as "dust," with which they are associated, and the laws governing the distribution, seasonal or diurnal abundance of atmospheric bacteria cannot differ greatly from those which cause the amount of "dust" to vary according to the direction of the wind, the relative position of its source as regards the point of observation, etc. If the wind comes from the direction of a pine forest when the pollen is being shed, the aëroscope will show the presence of a multitude of peculiar shaped bodies, which are in fact the pollen of the pine tree; if it comes from the direction of a city street during the time when this is crowded with vehicles, it will be apt to contain a large amount of "street dust;" if it comes over the surface of a desiccated swamp it will contain encysted infusoria, unicellular algæ, bacteria, etc.

I would not have it understood that I underestimate the value of such researches as Miguel is engaged in. They have a value comparable with that of carefully made meteorological observations relating to temperature, pressure, direction of the wind, etc. But, in my opinion, altogether too much has been expected from studies of this kind by those who are especially interested in pathological and sanitary questions. Miguel admits that it is impossible by the use of the microscope alone to distinguish with certainty the germs of bacteria present in the atmosphere, from certain non-living particles associated with them, and that it is only by culture methods that they can be distinguished and enumerated with any degree of precision.

The method which, after extended experiments, he has found to be most satisfactory, requires a well-equipped laboratory, and the expenditure of an enormous amount of time and patience. By this method a skilled observer may make a complete biological analysis of the atmosphere of a given locality, and by analyzing samples collected at different hours of the day may determine the diurnal variations as to the number of living bacterial germs present, etc. The method, in brief, consists in aspirating a given quantity of air through a tube provided with a filter of sterilized cotton, in washing the germs from this filter with distilled water, and in adding this to a sterilized culture-medium, which is distributed in a large number of germ-proof receptacles. The number of germs in the quantity of air passed through the filter is determined by the number of these cultures which are fertilized. When only two or three tubes out of twenty, for example, break down, it is assumed that these have each been fertilized by a single germ, and this is taken as the basis of a calculation of the number of germs per cubic metre of the air examined. If, however, a majority of

the tubes break down, it may be that several germs have been introduced into each, and it will be necessary to repeat the experiment, and to distribute the germs trapped by the cotton filter in a larger amount of fluid, distributed in a greater number of separate receptacles.

The interesting and valuable series of experiments made by Miguel to determine the antiseptic value of various chemical agents was terminated some time ago, and the results are published in the annual report of the Observatory for 1884.

Miguel has recently been experimenting with a new material for surface cultures, which he considers to be superior to the agar-agar gelatine for his purpose, and which forms a jelly that does not liquefy even at a temperature of 50° C. The material employed in making this jelly is the *Fucus crispus*, or white lichen. This is digested three-quarters of an hour in bouillon, in the proportion of twenty-five grammes to the litre; it is then boiled for a short time, and filtered, *hot*, first through a wire gauze, and then through a filter of coarse linen. The sterilized jelly prepared in this way is quite transparent, and M. Miguel assures me that it furnishes an excellent culture medium for bacteria of various kinds.

Miguel is still a young man, about 35, and with his robust constitution, enthusiasm, mechanical skill, and indefatigable perseverance, he will, no doubt, do all that one man can do in a single locality for the advancement of that branch of science—Aëroscopy—which he has made his specialty, and in which he is at present beyond question the highest authority. This letter has already reached such a length, that, in justice to myself and to the readers of The News, I must postpone an account of my visit to Pasteur's laboratory for another communication.

G. M. S.

Paris, May 12, 1885.

NEWS ITEMS.

Congenital Absence of the Radius and Pollex of both Arms.—Dr. C. A. Wilson, of Atlanta, Ga., writes us that there was brought before him, on the first of May, a child, four months of age, in whom there was congenital absence of radius and pollex of each arm. Through the contraction of the muscles of the forearm the hand was rotated inwards and drawn upwards on the inferior extremity of the ulna, and the ulna itself considerably curved in its lower half. There was almost no power of flexion and extension of the fingers, and anything offered the child was grasped between the index and middle fingers. Of course, the lacking radii precluded the hope of accomplishing much by any manner of treatment.

Medical School of Maine.—The graduating exercises of the class of 1885, took place on Wednesday, May 27, at 9 o'clock, A.M., in Memorial Hall, Brunswick. An address was delivered by Weston Thompson Esq., of Brunswick, and the parting address to the class by A. C. Gibson, of Bangor. After the parting ode the degree of Doctor of Medicine was conferred upon fourteen graduates, and the diplomas were presented by Prof. Alfred Mitchell.

At noon of the same day was held the second annual meeting and reunion of the Medical Alumni Association. The retiring President, Dr. F. C. Thayer, of Waterville, delivered a short address. The Alumni are determined that the school shall enjoy better clinical advantages, and insist upon its removal to Portland, as soon as necessary expenses can be met.

A committee of conference, appointed last year, to consult with the faculty and trustees was continued, and it is probable that steps will be at once taken to foumd an alumni fund.

The officers for the ensuing year are:

President.—S. Laughton, M.D., of Bangor.

Vice-Presidents.—R. D. Bibber, M.D., of Bath; C. A. Peaslee, M.D., of Wiscasset.

Secretary.—Charles D. Smith, M.D., of Portland.

Treasurer.—F. H. Gerrish, M.D., of Portland.

An Adirondack Sanitarium.—A charitable institution known as the Adirondack Cottages for the treatment of pulmonary diseases, was opened near Saranac Lake, New York, on May 15th. The aim of this undertaking is to offer to patients of limited means and attacked with incipient phthisis all the advantages to be derived from a change of climate, a quiet outdoor life, and proper medical treatment. It is not meant as an asylum for hopeless cases, and none but patients whose chances of recovery seem reasonable will be admitted. The cottage plan has been adopted, and nothing has been neglected to insure the best hygienic conditions possible. Each cottage is to shelter two patients only, their meals being served in the main building. The location is a most happy one, embodying beautiful scenery, a dry, well-drained soil with a sunny exposure, and moderatly high elevation about the surrounding country.

A charge of five dollars a week will be made to each patient, which will include everything, even washing. Dr. A. L. Loomis, of New York, is the examining physician, who will pass upon applications, making examinations free of charge. Should patients, however, find it impossible to see him personally, the application can be made by letter to Dr. E. L. Trudeau, Saranac Lake, Franklin Co., N.Y. It should contain a description of the applicant's case by his own physician, giving information on the following points; Family history, duration of disease, pulse, temperature, and respiration in P.M., weight in health at time of examination, amount of cough and expectoration, and some remarks upon the amount of dyspnœa on exertion, strength, and general condition of patient. Besides this the results in detail of a physical examination of chest should be given. No charges will be made at any time for medical treatment.

A Professorship of Sanitary Engineering.—The trustees of Columbia College, New York, at their meeting on June 1, decided to establish a chair of Sanitary Engineering in the School of Mines. The proposition has been talked of for several years, and in view of the growing practical importance of the subject it was decided best not to defer it longer. The new course will begin in October. Dr. J. S. Billings, Surgeon U. S. A., who has delivered several courses of lectures at the College, has been appointed to deliver the lectures on hygiene. He will be assisted by an expert in microscopic study, and in the study of microbes. The trustees appropriated the money for this purpose and for plans and drawings for the work.

INOCULATION FOR CHOLERA.—Dr Ferrán, having heard that Dr. Cameron, M.P. for Glasgow, had asked a question in the House of Commons about his investigation, has sent that gentleman a telegram giving the results of a great test experiment which is at present being conducted by him, under the eyes of several scientific Commissions, at Alcira, a town near Valencia, where an epidemic of cholera is raging. According to this telegram, the population of Alcira is 16,000, and since the first of the present month 5,432 of its inhabitants have been inoculated with his protective *virus*. That would leave the number of those not inoculated about 10,500; or accepting 16,000 as an exact figure, precisely 10,568. Of the 10,500 persons who are not inoculated, cholera has attacked 64, and proved fatal to 30. Of the 5,432 who have been inoculated, it has, according to Dr. Ferrán, attacked only 7, and proved fatal in no single case. In other words, since the commencement of the experiment on May 1, one person out of every 163 has been attacked among the uninoculated population, and one person in every 352 has died of cholera; while among the inoculated population only one person in 776 has been attacked, and not a single person in the entire 5,432 has died of the disease. In view of the very startling and important nature of these results, Dr. Cameron hopes that either Her Majesty's Government, or some of our great scientific and medical associations, may see their way to sending a Commission to verify them.

The Spanish Minister of the Interior, on being asked in the Cortes on Monday to give Dr. Ferrán a grant in order to enable him to continue his experiments on a larger scale, said he was unable to do so at present, but as soon as it lay in his power he would grant a sufficient sum, although, in his opinion, Dr. Ferrán's experiments had not yet reached a sufficient degree of certainty to prove a complete success. He added that a commission of medical men would be appointed to visit Valencia and other towns, in order to study the experiments that are being made.

A correspondent from Alcira informs a Spanish journal, the *Independencia Medica*, that he has no doubt about the nature of the epidemic, as he has recognized Koch's comma-bacillus in the dejections of a patient. He also states that when Dr. Ferrán first visited the town he "vaccinated" all the boys in an asylum there except two. Now these two have taken the disease, and none of the others. This circumstance has made a strong impression on the people, and their faith in Ferrán's inoculation, as prophylactic against cholera, is unbounded. The journal quoted purposes to reserve a special section in each number for the purpose of reporting Dr. Ferrán's doings.—*Medical Times and Gazette*, May 23, 1885.

INTERNATIONAL SANITARY CONFERENCE.—The International Sanitary Conference met for the first time in Rome on May 20th, and was welcomed by the Minister for Foreign Affairs, Signor Mancini, who said that the duty of the Conference would be to concert preventive measures, to be enforced in each country, to prevent the introduction of communicable diseases, or to stamp them out at their outbreak, and also to make arrangements to adopt a rational and practically useful method for protecting other countries from invasion. Signor Mancini having declined to be nominated president, Count Cadorna was elected. The Conference adopted the rules in force at the Vienna Conference, constituted its bureaus, and then adjourned until Monday next, May 25th. Dr. Sternberg, delegate of the United States, presented copies of the protocols of the Conference held at Washington in 1881. It has been generally understood that the Conference will sit for about a month at the present time, and that if the business before it is not then completed its sittings will probably be suspended during the hot weather. As we have previously announced, scientific theories and controversy as to the nature of contagion, will be, as far as possible, kept outside the deliberations, and, if the Conference really confines itself to the business before it, there is no reason why it should not finish its work within a month. It has, in fact, only to lay down general principles, already well recognized by all epidemiologists and administrators, and ratified by the Conference at Vienna in 1874.—*British Med. Journal*, May 23, 1885.

DEATH OF PROF. HENLE.—The death of Dr. Gustav Jakob Henle, on the 13th of May, at the advanced age of nearly seventy-six years, removes one of the most famous German scientists. All his life he was an earnest worker, and was the author of numerous volumes, the best known of which is his *Handbook of the Systematic Anatomy of Man*. His contribution to the knowledge of the structure of the kidney completed the work of Bowman and Müller. Early in his career he was an assistant of Rudolphi. Afterwards he taught anatomy and physiology in Zürich and Heidelberg, and in 1852 he was appointed Professor of Anatomy in the University of Göttingen, a position which he filled up to the time of his death.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MAY 26 TO JUNE 1, 1885.

HARTSUFF, ALBERT, *Major and Surgeon.*—Ordered from the Department of Missouri to the Department of the East.—*S. O. 121, A. G. O.*, May 27, 1885.

BROWN, H. E., *Major and Surgeon.*—Ordered from the Department of the East to the Department of Missouri.—*S. O. 121, A. G. O.*, May 27, 1885.

BROWN, J. M., *Major and Surgeon.*—Assigned to duty as Post Surgeon at Fort Omaha, Nebraska.—*S. O. 49, Department of the Platte*, May 29, 1885.

BRECHEMIN, LOUIS, *Captain and Assistant Surgeon.*—Relieved from Fort Omaha, Nebraska, and assigned to duty as Post Surgeon at Fort D. A. Russell, Wyoming Territory.—*S. O. 49, Department of the Platte*, May 29, 1885.

AINSWORTH, F. C., *Captain and Assistant Surgeon.*—(Department of Texas.) Ordered for temporary duty in Department of Missouri.—*S. O. 58, Department of Texas*, May 25, 1885.

HELL, WM. A., *Captain and Assistant Surgeon.*—(David's Island, New York Harbor.) Ordered for temporary duty at Willets Point, N. Y., during absence of Post Surgeon.—*S. O. 121, A. G. O.*, May 27, 1885.

SPENCER, WM. G., *Captain and Assistant Surgeon.*—Ordered for duty at Fort Sisseton, Dakota Territory.—*S. O. 55, Department of Dakota*, May 20, 1885.

DAVIS, WM. B., *Captain and Assistant Surgeon.*—Granted leave of absence for one month from May 25, 1885.—*S. O. 122, A. G. O.*, May 28, 1885.

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ORIGINAL ARTICLES.

INJURIES OF THE MAIN BLOODVESSELS IN THE AXILLA CAUSED BY EFFORTS TO REDUCE DISLOCATIONS OF THE SHOULDER.[1]

BY LEWIS A STIMSON, M.D.,

PROFESSOR OF CLINICAL SURGERY IN THE UNIVERSITY OF THE CITY OF NEW YORK, ETC.

DISLOCATION of the shoulder, an injury, both relatively to the other dislocations and actually common, is, at least when recent, deemed one of minor gravity, the cure of which can be effected readily and without risk to the patient. But, from time to time, cases are reported in which the gravest consequences have followed reduction or the attempt to reduce, and such accidents have happened and continue to happen in the practice of even the most experienced surgeons, aided by anæsthetics and employing methods of manipulation rather than those of force. The importance of the general recognition of this possibility, the interest attaching to certain questions of diagnosis and treatment, and the discovery of certain errors current in the statistics of the subject, have led me to bring before you a question which, within the last few years, has been the theme of several writers, and with which all are reasonably familiar. Among these accidents, the most frequent and most important are those of injury to the main bloodvessels in the axilla.

Although the earliest recorded cases of this accident occurred at about the beginning of the eighteenth century, the subject did not receive the attention of systematic writers on surgery until after the publi cation, in 1827, of an article by Flaubert.[2] Malgaigne, in 1855, discussed the subject at length in his work on dislocations, mentioning sixteen cases of all kinds, certain and uncertain. Callender,[3] taking as a text his own fatal case, again collected and collated the known cases; and similar use was made of the material, and other cases added to the list by Le Fort,[4] Willard,[5] and Marchand.[6] In 1882 Körte[7] reported three personal cases, and wrote a very full and valuable paper on the subject containing forty-four supposed (actually thirty-eight; see note below) cases of dislocation of the shoulder, in which the vessels had been seriously injured during the act of dislocation or of reduction; and in 1884 Cras[1] reported a personal case of injury of the axillary artery, and added a few others to Körte's list. Strictly speaking, several of these cases should not be here considered, since in them the vessel was injured at the moment of dislocation and not during reduction, and in many others it remains uncertain whether the same objection might not be made to them. They are retained because they serve equally well with the others to further the study of most features of the subject.[2]

The trustworthy recorded cases of injury to the larger vessels of the axilla in dislocation or reduction of dislocation of the shoulder are forty-four in number. Of these, the axillary vein alone was ruptured in three (Froriep,[3] Price,[4] Hailey[5]), although I think the last one doubtful, and the artery and vein together in two (Platner,[6] Baum[7]). In most of the others the axilliary artery or one of its branches was injured, but in some the source of the hemorrhage remains uncertain. In thirty-two cases death or amputation of the arm furnished the opportunity to ex-

[1] Read before the New York Surgical Society, May 26, 1885.

[2] Mém. sur plusieurs cas de luxations dans lesquels les efforts pour la réduction ont été suivis d'accidents graves. Répertoire d'ant. et de phys., 1827.

[3] St. Bartholomew's Hosp. Reports, vol. ii. p. 96, 1866.

[4] Dic encyclopédique des sci. méd. Article "Axillaires."

[5] Phila. Med. Times, 1873, vol. iii. p. 721.

[6] Des accidents qui peuvent compliquer la réduction des luxations traumatiques. Thèse de concours, Paris, 1875.

[7] Arch. für klinische Chirurgie, vol. xxvii. p. 631.

[1] Bull. de la société de chirurgie, p 739, 1884.

[2] Reference to the original accounts, so far as I have been able to obtain them, shows several errors in the lists given by the above-mentioned writers. Sir Astley Cooper's case must be excluded because it is the same as Gibson's first case, having been simply quoted by Cooper without acknowledgment.

Blackman's case must be excluded because it proved to be not a dislocation, but a fracture of the humerus. As it has been widely quoted and is, indeed, given in detail as a dislocation by Dr. Hamilton (*Fract. and Disloc.*), an explanation of the manner in which the error arose may be of service. Blackman reported it as a dislocation in the *Western Lancet*, August, 1856, p. 469, and an abstract of this report was given in the *Am. Journal of the Med. Sciences*, 1856, vol. xxxii. p. 571, and is quoted by most writers. But on page 508 of the same (August) number of the *Western Lancet* is a note by Blackman, which apparently had been overlooked by the maker of the abstract, giving the results of the autopsy and showing the error in the diagnosis. The fracture was at the surgical neck, and the end of the shaft had been displaced upward and lay in contact with the coracoid process; the head was still in the glenoid cavity, and had partly united with the shaft about an inch below its upper end.

In Segond's case not only does the artery appear to have been wounded by a piece of the dish the patient was carrying, but it is doubtful even if the limb was dislocated.

In Delpech's case it is recorded only that at the moment of reduction the patient grew pale, became unconscious, and died immediately, and there is nothing to show the cause of death.

In Fano's the artery may have been simply compressed. O'Reilly's is the same as Adams's. The latter admitted the case into hospital, the former operated upon it.

A case which Callender quotes, a man treated by a "bone-setter," does not deserve to be grouped with those treated by professional surgeons, although the force employed—traction by twelve or eighteen assistants—was not much in excess of that recorded in some of the other cases, or of what I have myself seen employed. Not only the artery, but also the muscles were torn and the humerus was broken.

Green's case (*Lancet*, vol. viii. pp. 189 and 283, 1825,) is quoted as one of recovery after ligature of the subclavian, but the reports end on the eighteenth day with the ligature still in place, and after a free hemorrhage on the thirteenth day.

[3] Malgaigne, Luxations, p. 151.

[4] Callender, loc. cit., p. 107.

[5] British Medical Journal, ii. p. 634, 1863.

[6] Malgaigne, loc. cit., p. 151.

[7] Deutsche Klinik, p 431, 1867.

amine the region and determine the character of the lesion; this, in some cases, was a complete or partial rupture of all the coats of the artery, or of the inner and middle coats alone, with subsequent formation of a circumscribed aneurism.[1] In other cases the vitality of the wall appears to have been diminished or destroyed by direct pressure, and this to have been followed, after the lapse of a few days, by rupture (Warren[2]), or, still later, by the formation of an aneurism. In Gibson's second case[3] an aneurism appears to have formed in consequence of the earlier attempts to reduce, and then itself to have been ruptured when Gibson effected reduction. Rupture appears always to have taken place quite high up, and usually at the point pressed upon by the head of the humerus. Callender found it necessary to divide the pectoralis minor to reach it. In the fatal cases of injury of the vein alone the vessel was torn completely, or almost completely, across. In Baum's case both artery and vein were partly torn by a broken piece of the new bony socket that had formed about the head of the humerus. The artery was tied above the origin of the long thoracic, and a second ligature was subsequently placed on it at the level of the lower border of the pectoralis major.

In five cases (Callender, Desprès,[4] and Körte's three) only a small (one-sixth of an inch) oval opening was found on the anterior wall of the artery, and was thought to have been produced by the tearing off of a branch, the subscapular or circumflex.

In Gärtner's[5] case the opening in the artery is described as funnel-shaped, but the tumor was small, formed slowly, and presented the common signs of aneurism, so that it seems probable that what he describes as the opening included also the neck of an aneurismal sac. In other cases the subscapular (Lefebvre[6]) or the circumflex artery (von Pitha[7]) was torn across at or near its origin. These last-named eight cases form a considerable portion of the whole number, and are of great importance because they explain the persistence of the radial pulse noted in several of the histories.

Of twenty-nine cases in which the age of the patients is given, in twenty they were more than forty years old. The youngest was twenty (Gärtner), the oldest eighty-six (Sands[8]). In very few of the cases is it noted that the arteries were atheromatous, although the advanced age of many of the patients makes it probable that the elasticity of the vessels was diminished.

In more than half the cases the dislocation was recent—less than three weeks. In not more than one-third of them is it reasonably certain that the lesion was caused during reduction; in three cases it was certainly caused by the dislocation; in the remainder the cause is obscure. To these latter belong those cases in which the reduction was promptly effected, and without the use of much force or of exaggerated positions of the arm.

In many of the others the attempt to make reduction was greatly prolonged or several times repeated, and the force used was very great or improperly applied. This last criticism is probably applicable to the earliest four cases (Verduc, Petit, Platner, Bell), about which nothing is known except that death was caused by hemorrhage. In one of them (Bell[1]) the use of the ambi is mentioned, and it is probable that it or the method of the door or ladder was employed in all.

In some the injury was evidently caused by excessive traction (Gibson, traction by five or six assistants in one case, by pulleys for nearly two hours in the other; Leudet, eight assistants); in others by faulty manœuvres, such as extreme abduction or elevation of the arm, rotation, and circumduction; in others again apparently by direct compression of the vessel against the underlying bone, as by the booted heel in the axilla (Warren, Rivington[2]), or possibly by the thumbs (Panas[3]).

Leaving aside the earlier cases in which faulty methods no longer in use were employed, and those old dislocations in which the relations and connections had been permanently changed by fibrous or bony tissue of new formation, it becomes evident that in dislocation of the shoulder the accident is most to be apprehended when the elbow is raised in abduction to the height of the shoulder, or is carried, as in Callender's case, across the chest and face in a wide movement of circumduction; and for this reason, that in these movements the dislocated head of the bone is turned downward into the axilla, and the vessels which lie upon its inner side are pressed down before it and forcibly put upon the stretch, while those branches which run almost directly outward, the subscapular and circumflex, and are fixed to the tissues amid which they branch, are directly and forcibly elongated. Even when the head of the humerus is in its socket the axillary vessels are put upon the stretch when the arm is widely abducted, as can be readily verified during an operation for the removal of the axillary glands, or, still more simply, by observing the arrest of the radial pulse when the arm is raised and carried backward; and there are several cases on record in which this movement alone has resulted in the formation of an axillary aneurism or in rupture of the axillary artery.[4] Although in dislocation inward the limb is shortened by being abducted, yet the artery is not thereby relaxed, but, on the contrary, it is still further stretched around the head of the bone. Jössel,[5] in a recent case in which death was caused by associated injuries, found the "nerves of the brachial plexus, especially the circumflex nerve and the subscapular artery, greatly stretched by the head of the humerus," and according to Körte (loc. cit., p. 640), he found in another

[1] It is possible that this rupture may be followed by obliteration of the artery at the wounded part. Scarpa held this opinion (Hogson, Dis. of Arteries, p. 488).
[2] Med.-Chirurg. Trans., vol. xxix. p. 25.
[3] Surgery, vol. i. p. 334.
[4] Bull. de la soc. Chirurgie, p. 116, 1878.
[5] Schmidt's Jahrbüch., 1871, vol. cli. p. 304.
[6] Cras, loc. cit., p. 750.
[7] Körte, loc. cit., p. 649.
[8] Medical Record, p. 45, 1880.

[1] Callender, loc. cit., p. 101.
[2] British Medical Journal, 1872, i. p. 420.
[3] Marchand, loc. cit., p. 52.
[4] Cases of Pelletan and Paget, and specimen in museum of St. George's Hospital; Callender, loc. cit., pp. 103 and 107.
[5] Deutsche Zeitschrift, vol. xiii. p. 177, 1880.

case of recent dislocation the subscapular artery torn.

In his remarks on the case at the Sheffield Infirmary[1] in which the artery was torn across during an unsuccessful attempt to reduce a dislocation of six weeks' standing, and an incision was made through which each end of the torn artery was tied, Mr. Jackson says: "One thing was noticed on cutting into the axilla: the extreme tension caused by the pressure of the head of the humerus on the vessels and nerves when the arm was raised above the shoulder." This patient died two days after the operation.

In some of the cases in which it is certain or probable that the injury to the vessel was inflicted at the moment of dislocation, it is noted that the latter was produced while the arm was widely abducted—that is, under circumstances in which the head of the humerus would be driven downward and inward.

If the dislocation is an old one, and especially if there has been much inflammatory reaction and the vessels have become firmly adherent to the bone or embedded in unyielding cicatricial tissue, the liability to rupture is increased because the loss of elasticity occasioned by the latter condition, and because of the limitation of the strain to a shorter segment of the vessel in the former. If, in addition, the distensibility of the vessel has been further reduced by atheroma, the danger is still greater; and this last predisposing cause may properly be deemed sufficient to lead to the rupture even when the traction is slight and the manœuvres are confined within a narrow range.

In Anger's[2] case, fracture of the head (?) of the humerus coexisted; in Mash's[3] two pieces had been chipped off the head of the humerus, and were lying in the glenoid cavity. In several others fracture of the greater tuberosity of the humerus or of the rim of the glenoid cavity is noted; the former of these two complications is common in inward dislocation of the humerus, and could have had no direct influence in causing the injury of the vessels: the latter, also, was probably without influence, since the vessels are pushed away from the scapula, and the fragment remains attached to it.

The *symptoms* at the beginning present two widely different forms; in one, the less common, a tumor presenting many of the signs of an encysted aneurism appears in the axilla a few days or weeks after the reduction, and increases in size rather rapidly; if not successfully treated, it soon involves the skin and ruptures externally. In the other form, the more common, a diffused fluctuating swelling, without bruit or pulsation, appears immediately, or within a few hours, in the axilla, raising the pectoral and deltoid muscles, or is, perhaps, most prominent posteriorly, and in most cases promptly reaches a large size, even that of the adult head (Lister[4]): the radial pulse sometimes persists. The only exception to rapid growth among the recorded fatal cases is Körte's third case (loc. cit., p. 636), in which the extravasated blood disappeared slowly, leaving a firm, non-pulsating lump, as large as a walnut, in the course of the axillary artery, which a surgeon supposed to be a lymphatic gland, and undertook to extirpate nearly five months after the accident. It proved to be an aneurism containing much stratified clot; the axillary artery was tied above and below, and the patient died.

In several cases the patients died promptly after the accident, sometimes after profound syncope, sometimes (Gibson's first case[1]) after a short period of apparent well-being, with symptoms of shock or acute anæmia. In two, which finally ended in recovery (Sands, Agnew[2]), the patients were at first greatly prostrated, and death by syncope threatened. In another (Mash's) emphysema developed in the arm, and the patient died forty hours after the reduction. In this case the inner and middle coats of the artery were torn across "just beyond the point of origin of the dorsal scapular branch." The radial pulse was at first perceptible, but had ceased the next morning.

In most of the others the swelling increased, and, in a longer or shorter time, ruptured spontaneously, or was threatening to rupture when operative interference (puncture, incision, or ligature of the subclavian) was resorted to. The longest period was in Bellamy's[3] case, six months after reduction, and even in this case the first hemorrhage occurred five weeks after reduction.

In the cases that recovered without operation (Agnew, Sands, Malgaigne,[1] Desault,[5] Anger, Nélaton's second case[6]) the swelling subsided, and the ecchymosis was slowly absorbed. Agnew's patient was discharged in ten days, Anger's and Desault's in a fortnight, Malgaigne's was well on the twenty-second day, and Sands's, a woman eighty-six years old, made a slow recovery. In three of them (Nélaton's, Anger's, Sands's[7]) the diagnosis of rupture of the axillary artery was made. Desault's diagnosis was "emphysema of the cellular tissue;" he had reduced by violent and prolonged traction a dislocation of six weeks' standing in a man sixty years old. At the moment of reduction a tumor formed suddenly under the pectoral muscle, and soon filled the axilla; the patient fainted, and the pulse was barely perceptible on the affected side; the tumor was well defined, elastic, not fluctuating, the overlying skin was not at first discolored, and percussion gave a sort of sound (*espèce de bruit*). On these symptoms rupture of the artery was excluded, and the diagnosis of emphysema made. Malgaigne and Agnew made the diagnosis of rupture of the axillary vein.

I think there is reason to doubt the correctness of

[1] British Med. Journal, Feb. 3, 1883. p. 207.
[2] Bull. de la soc. Chirurgie, p. 122, 1878.
[3] British Medical Journal, i. p. 526, 1872. Reported by Carruthers, the house surgeon.
[4] Edinb. Med. Journ., p. 829, 1873.

[1] Surgery, vol. i. p. 325.
[2] Willard, in Phila. Med. Times, vol. iii. p. 721, 1873.
[3] Lancet, ii. p. 260, 1880.
[4] Loc. cit., p. 150.
[5] Œuvres chirurgicales, i. p. 380.
[6] Referred to by Anger and Le Fort, loc. cit.
[7] Dr. Sands's patient died in May, 1885. The injury proved to have been of the axillary artery, which was occluded at a point a quarter of an inch above the origin of the posterior circumflex. The specimen was presented at the meeting of the New York Surgical Society, at which this paper was read, and a description of it will be found in the report of the proceedings.

the diagnosis in the last three cases, certainly in Desault's and Malgaigne's, for it was avowedly based on the persistence of the radial pulse, and although it is not so stated in the report of Dr. Agnew's case, it seems fair to assume that the same persistence of the pulse which is noted in the report was also the basis of his diagnosis. As has been already mentioned, rupture of the subscapular or circumflex artery has several times presented similar symptoms, and, as in Mash's case just quoted, the radial pulse may even persist after rupture of the inner and middle coats of the axillary artery itself. Pelletan[1] had a case similar to Desault's, made the same diagnosis, and incised the tumor; the patient died of hemorrhage, and the artery was found to have been ruptured.

In the two cases in which rupture of the vein alone was demonstrated post-mortem (Froriep, Price), the patients died promptly, in an hour and a half and on the following day, respectively. In the third case, Hailey's, in which this lesion is said to have been proved by the autopsy, the account of the examination is very unsatisfactory, and leaves it, I think, quite uncertain what the actual injury was. The patient was a man fifty-nine years old; the dislocation was caused by a fall from a wagon and was very easily reduced. The symptoms were, first, pain in the wrist, then, after a few days, swelling of the shoulder and œdema of the arm; at the end of two mouths a tumor appeared between the acromion and coracoid (*sic*), and death by exhaustion a few days later. The tumor was blood-clot, more than two pounds being removed from the axilla.

In De Morgan's case[2] "it was impossible to detect the source of the hemorrhage" at the autopsy, and it was attributed to the rupture of many small veins. This explanation also, I think, may well be questioned, for in this case too the radial pulse persisted, and at that time no cases had yet been reported in which similar symptoms had been shown to be caused by rupture or avulsion of a branch of the main artery. If, as seems probable from the account and in view of the ignorance of this fact, the examination was mainly directed to the condition of the veins, it is not unlikely that rupture of an arterial branch may have been overlooked, especially since the symptoms were not unlike those of some of the other cases in which this rupture was demonstrated (Després, Körte's second case). The symptoms and course of this case were, in brief, as following:

The patient was a man fifty-four years old, the dislocation subcoracoid, the reduction immediate, under chloroform, with the heel in the axilla. During the first week "there was nothing to be noticed but the ordinary swelling attending such a dislocation. This swelling, instead of subsiding, increased, and this somewhat rapidly towards the end of the first week. There was also some purple discoloration about the inner and posterior parts of the shoulder. Still, there were no appearances which might not attend an ordinary bruise or laceration about the part. But, in the course of the following week, enormous swelling had come on, extending from the elbow up the arm and over the chest to the level of the outer third of the clavicle, and over the scapula." The swelling was soft and fluctuating; the skin in places dark purple and thin; the radial pulse was natural. Fever, with slight shivering and one distinct chill. "About the third or fourth week an incision was made in the arm and the hand passed up into the cavity, which contained an enormous amount of blood, chiefly coagulated, extending under the pectoral muscles, down the side of the chest, and behind over a great part of the scapula, and communicating with the shoulder-joint. The subclavian and axillary arteries could be felt." The man died with symptoms of septicæmia.

In Körte's second case (loc. cit., p. 635) the patient was fifty-two years old, the dislocation forward and inward. Several unsuccessful attempts to reduce were made during the sixth month, and the last was followed by the gradual appearance of a non-pulsating swelling under the pectoral muscle, œdema of the arm, and sharp neuralgic pain. Radial pulse. The patient became feverish, the tumor softer, the skin thin, and at the end of six weeks it ruptured spontaneously. The hemorrhage was arrested with a tampon, and the patient died shortly afterward. The autopsy showed a large cavity occupying all the space under the pectoralis major, and filled with large blood-clots. On the outer and front side of the artery, 4 centimetres below the clavicle, was a transverse oval opening measuring 0.4 by 0.3 centimetre (one-sixth by one-eighth inch), thought (loc. cit., p. 650) to have been produced by the tearing off of an arterial branch.

In Desprès's case there was the same swelling, slowly increasing and becoming fluctuating, œdema of the arm, and persistence of the radial pulse. In addition, a bruit was audible after the tenth day, and the swelling subsequently pulsated at times. An operation for ligature of the subclavian was done on the forty-fifth day, and was followed by arrest of the pulsation; but, after the patient died, on the fifty-fourth day, it was found that the ligature had been placed upon a nerve immediately overlying the artery. The common trunk of the circumflex arteries was found to have been torn off at its origin.

On the other hand, in Körte's first case, in which the lesion proved, post-mortem, to be a similar opening upon the side of the axillary artery, and of almost exactly the same size, pulsation in the brachial and radial arteries was barely perceptible two months after the accident, when the patient first came under observation with an enormous pulsating swelling of the shoulder, filling the axilla and extending up to the clavicle.

These histories show, and many of the others might be quoted in confirmation, that, although the diagnosis, so far as the general nature of the accident, rupture of a bloodvessel, is concerned, does not long remain obscure; the identity of the injured vessel cannot always be determined. If the tumor pulsates, the diagnosis of rupture of an artery may be made; and if, in addition, the radial pulse is present, it is extremely probable that the injured vessel is not the main artery, but that one of its branches, probably the subscapular or circumflex,

[1] Clinique chirurgicale, vol. ii. p. 95. Quoted by Malgaigne.
[2] British Med. Journal, i. p. 5, 1872.

has been ruptured or torn off at its origin. Beyond this it does not seem at present possible to go with much certainty, although the great preponderance of arterial lesions in the known cases—26 out of 28, or, adding Hailey's and De Morgan's, out of 30, or, again, adding Platner's and Braun's, in which both artery and vein were torn, out of 32—makes it highly probable in any given case that an artery, and not the axillary vein, has been torn.

Of the remaining 12 cases, 6 recovered without operation (Desault, Malgaigne, Nélaton's second case,[1] Anger, Agnew, Sands), and have been already discussed. Nélaton, Anger, and Sands made the diagnosis of rupture of an artery. In the other 6—Warren, O'Reilly,[2] Green, Volkmann,[3] Létiévant,[4] Cras—the subclavian was tied; in 5 of them with success; in 1, Green's, the result is not known.

In the last 6, and in 3 of the first 6, it seems reasonably certain that an artery was injured, for pulsation of the swelling is noted in every account that is given in detail, and such was the opinion of the surgeons who treated them. The record, then, may be made as follows: Of 44 cases, an artery (the axillary or a large branch) was ruptured in 35, the artery and vein in 2, the vein alone in 2, in 2 dissection failed to reveal the source of the hemorrhage; and in 3, in which the patients recovered without operation, the symptoms do not justify a positive diagnosis.

The *terminations* were as follows: 12 recoveries, 31 deaths, and in 1 (Green's) the result is unknown; 20 received no operative treatment; of these, 6 recovered and 14 died.[5] In 14 the subclavian was tied, with 5 recoveries, 8 deaths, and 1 unknown result. In 6 an incision was made in the axilla, and the artery tied above and below the point of rupture; all died. In 4 the limb was disarticulated; 1 recovery, 3 deaths. The treatment in the cases that recovered without operation was simply compression of the swelling and immobilization of the arm, with the application of ice in Malgaigne's, and compression of the subclavian artery in Agnew's.

In drawing inferences from these results, it must be borne in mind that in many of the cases in which operations were undertaken non-operative treatment had previously been employed, and had resulted in a condition that made an operation necessary. Thus, using only those cases in which the record is sufficiently detailed, of the 14 cases of ligature of the subclavian, in 7 the operation was done after the lapse of several weeks or even months, in 1 on the third day, in 1 on the tenth day, and in 5 the length of the interval is not known. Of the 4 disarticulations, in 1 the operation was of a late date, in 1 five days after the accident, and in 2 unknown. Of the 6 treated by incision and double ligature of the axillary artery, the operation was done promptly in 2, and after a long interval in 4. Consequently the results of non-operative treatment may be tabulated as follows: Of 32 patients, 6 recovered, 14 died, and 12 (with 10 deaths) subsequently underwent operation, either because death by hemorrhage threatened, or because of the existence of a growing aneurism.[1] A fair inference is that conservative treatment may properly be tried at first, but should not be prolonged if the symptoms do not promptly yield; and, secondly, that, in case of resort to operation, ligature of the subclavian artery or disarticulation at the shoulder is to be preferred to incision of the sac and double ligature of the artery.

Experience with arteries wounded under other conditions has shown that they will sometimes quite readily heal, or the opening made into them will close, under pressure accurately made at the point of injury, and it would therefore be proper to attempt to treat this injury by direct, limited pressure. Whether or not it would be possible to recognize the wounded point and make efficient pressure directly upon it cannot be said, since the attempt does not appear to have been made. In default of such limited pressure, general compression of the swelling in the axilla seems to be the only other resource short of operation. The common treatment of ruptured artery,—incision, and double ligature of the vessel,—was immediately resorted to in only two of these cases, Lister's, and the one at the Sheffield Infirmary.[2] Both were promptly fatal.

An important question arises from these facts in connection with the treatment of dislocation of the shoulder: How far does the possibility of the occurrence of this accident affect the choice of a method of reduction? and also concerning the propriety of attempting reduction in cases that are not recent.

In the reduction of recent dislocations, these accidents show that abduction of the arm especially should be avoided, as also circumduction, violent traction, and rough pressure in the axilla. Kocher's method by manipulation appears well adapted to avoid the danger. It is also to be remembered that the injury to the vessel may be caused by the dislocation itself, and its symptoms may be masked by the swelling commonly present during the first few days.

In old dislocations the probability of the occurrence of the accident is increased by the more forcible measures usually necessary to break up the adhesions that bind the bones in their new relations; and, while it may be proper in many cases to make the attempt to restore the limb to usefulness, this possibility creates another reason for abstention when the patient is old, the duration of the dislocation long, and the adhesions firm. Even a dislocated arm may be very useful, and the fatality of this accident, more than 70 per cent. of deaths, may well cause the surgeon to hesitate to incur the risk merely for the sake of ameliorating a condition which does not endanger life and is quite compatible with activity and usefulness.

[1] After rupture of the tumor without hemorrhage, and suppuration of the sac and shoulder-joint. See Körte, loc. cit., p. 655.

[2] Cyclopædia of Anat. and Phys., vol. iv, part 1, p. 616, art. "Shoulder joint."

[3] Körte, loc. cit., p. 656.

[4] Cras, loc. cit., p. 748.

[5] Possibly Körte's second case should be included among the recoveries.

[1] Körte's second case is an exception; an error in diagnosis led to an operation after the aneurism had apparently undergone spontaneous cure.

[2] Brit. Med. Journ., February 3, 1883, p. 207.

List of Cases.

A. *Fatal without Operation.*

1. Verduc (Malgaigne, *Des luxations*, p. 149); artery wounded; no treatment; death by hemorrhage.

2. Petit (Malgaigne, *Des luxations*, p. 149): artery wounded; no treatment; death by hemorrhage.

3. Pelletan (Malgaigne, *Des luxations*, p. 149); artery wounded; puncture; death by hemorrhage.

4. Platner (Malgaigne, *Des luxations*, p. 149); artery and vein; death by hemorrhage.

5. Leudet (Malgaigne, *Des luxations*, p. 149); artery; 57 years. Dislocation 11 days.

6. Froriep (Malgaigne, *Des luxations*, p. 149); vein; 26 years. Dislocation 3 weeks.

7. Gibson, I., *Surgery*, i. p. 325; 50 years. Dislocation 2 months. Death in a few hours.

8. Price, quoted by Callender; vein. Death on following day.

9. Körte, I., *Arch. für klin. Chir.*, vol. xxvii. p. 631; artery; 25 years. Disloc. recent. Puncture.

10. Körte, III., *Ibid.*; artery; 52 years. Dislocation 5½ months. Rupture.

11. Mash (Carruthers, *Brit. Med. Journ.*, 1872, i. p. 526; artery; 38 years. Disloc. recent.

12. Hailey, *Ibid.*, 1863, p. 634; 59 years. Dislocation recent.

13. De Morgan, *Ibid.*, 1872, i. p. 54; 54 years. Dislocation recent. Incision.

B. *Ligature of the Subclavian.*

14. Green, *Lancet*, 1825, vol. viii. pp. 189 and 283; 33 years. Dislocation recent. Result unknown.

15. Warren, *Med.-Chir. Trans.*, vol. xxix. p. 25; 30 years. Dislocation recent. Recovery.

16. Gibson, II., *loc. cit.*, p. 334; 35 years. Dislocation 9 weeks. Death.

17. O'Reilly (Adams), *Cyclop. of Anat. and Phys.*, vol. iv. p. 616; 50 years. Dislocation recent. Recovery.

18. Nélaton, I., *Path. chir.*, ii. p. 368. Dislocation old. Death.

19. Rigaud, *Dict. Encyclop.*, art. Épaule; artery; 31 years; death.

20. Von Pitha (Körte), *loc. cit.*; artery; death.

21. Volkmann, *loc. cit.* Recovery.

22. Panas (Marchand, p. 52); artery. Dislocation recent; death.

23. Desprès, *Bull. de la Soc. de Chirurgie*, 1878, p. 116; artery; 40 years. Recent; death.

24. Gärtner, *Schmidt's Jahrb.*, 1871, vol. cli. p. 304; artery; 20 years. Recent; death.

25. Létiévant, *Bull. de la Soc. de Chir.*, 1884, p. 748. Recent; recovery.

26. Lefebvre, *Ibid.*, p. 750; artery; 52 years. Recent; death.

27. Cras, *Ibid.*, p. 739; 45 years. Recent recovery.

C. *Double Ligature—all fatal.*

28. Callender, *St. Barthol. Hosp. Reports*, vol. ii. p. 96; artery; 61 years. Dislocation old.

29. Wutzer, *Arch. für klin. Chir.*, vol. x. p. 308.

30. Körte, II., *loc. cit.*; artery; 29 years. Dislocation recent.

31. Lister, *Edin. Med. Journ.*, 1873, p. 829; artery; 58 years. Dislocation 8 weeks.

32. Rivington, *Brit. Med Journ.*, 1872, i. p. 420; artery; 71 years. Dislocation recent.

33. Sheffield Inf., *Ibid.*, 1883, i. p. 207; artery; 62 years. Dislocation 6 weeks.

34. Baum, *Deutsche Zeitschrift*, 1880, vol. xiii. p. 177; artery and vein. Lig. of axillary (possibly double).

D. *Disarticulation at Shoulder.*

35. Jungken, *Arch. für klin. Chir.*, vol. x. p. 313; artery. Unsuccessful attempt to apply double ligature; recovery.

36. Bell (Malgaigne and Callender). Death.

37. Ledentu, *Bull. de la Soc. de Chir.*, 1877, p. 187; artery. Dislocation recent; death.

38. Bellamy, *Lancet*, 1880, ii. p. 260; artery; 55 years. Dislocation 7 weeks; death.

E. *Recovery without Operation.*

39. Desault, *Œuvres Chirurgicales*, vol. i. p. 380; 60 years. Dislocation 1½ month.

40. Malgaigne, *loc. cit.*; 44 years. Dislocation 2 months.

41. Anger, *Bull. de la Soc. de Chir.*, 1878, p. 122; 54 years.

42. Nélaton, II., *Ibid.*

43. Agnew, *Phila. Med. Times*, 1873, p. 721; 60 years. Dislocation 6 weeks.

44. Sands, *Med. Record*, 1880, p. 45; 84 years. Dislocation 7 weeks. Autopsy in the proceedings of the New York Surgical Society, May 26, 1885, in this number of The News.

DISINFECTANTS.

PRELIMINARY REPORTS OF THE COMMITTEE ON DISINFECTANTS OF THE AMERICAN PUBLIC HEALTH ASSOCIATION.

XI.

COMMERCIAL DISINFECTANTS No. 2.

BY GEORGE M. STERNBERG, M.D.,
SURGEON U. S. A.

The following named "disinfectants" have been tested, under my direction, by my efficient laboratory assistant Dr. A. C. Abbott, of Baltimore. The test in every case has been made upon "broken-down" beef tea by the method heretofore described in detail.

Several of the disinfectants which stand at the head of the list contain the potent germicide mercuric chloride, as shown by the simple test of introducing a polished piece of copper into the solution. A deposit of metallic mercury upon the surface of the copper shows at once the presence of a soluble salt of this metal. Those who have occasion to use disinfectants, the exact composition of which is not made public, will do well to bear this in mind, and to remember also that the germicide power of such solutions is neutralized by contact with lead, copper, or tin, and that lead pipes are injured by passing

through them solutions of corrosive sublimate in any considerable quantity.

	Per cent. in which active.	Per cent. in which failed
Dr. Martin's "Disinfectant No. 1" (contains mercuric chloride)	2	1
"Thymo-cresol," English preparation, name of proprietor not given	2	1
"Withers Antizymotic Solution" (contains mercuric chloride)	4	2
"Pasteur's Marvellous Disinfectant,"[1] Blackman Disinfectant Co., of New York (contains mercuric chloride)	4	2
"Purity," Egyptian Chemical Co., Boston	40	20
"King Disinfectant," Humiston Manufacturing Co., New Haven, Conn.		50
"Sanguantræ," P. W. Manning, Stoneham, Mass.		50
"Phenoline," Hance Brothers & White, Philadelphia		50
"Golden Purifier," Thomas & Thompson, Baltimore		50
"Smith's Odorless Disinfectant," The Louis Smith Co., N. Y.		50
"Disinfecting Powder," G. L. Kidwell, Georgetown, D. C.		50
"Thymo-cresol Powder," English preparation, name of proprietor not given.		50
"Chloridium," Chemical Vaporizer and Deodorizer Co., of New York		50
"Carbolcrystal Disinfectant," H. H. Childs, proprietor		50

Dr. Abbott has also tested for me the different preparations of chloride of lime, and of Labarraque's solution which we have been able to obtain in the Baltimore market, with the following result.

Chloride of Lime.	Per cent. of available chlorine.
Brookman Manufacturing Co., Chicago	33.50
Risley & Co., New York	28.40
Rock Hill Alkali Co., Liverpool	28.00
Clagett Bros	24.10
Labarraque's Solution (liquor sodæ chlorinatæ).	
Reed & Carnrick, New York	3.80
Parke, Davis & Co., Detroit, Mich.	2.75
Powers & Weightman, Philadelphia	2.62
Hance Bros. & White, Philadelphia	0.35
Alonzo L. Thompson, Baltimore	c.013

[1] A preparation bearing the same name, reported upon in previous report upon commercial disinfectants, did not contain mercuric chloride and failed at 20 per cent.

NOTES ON PROFESSOR UNNA'S DERMATOLOGICAL PREPARATIONS.

BY ROBERT B. MORISON, M.D.,
PROFESSOR OF DERMATOLOGY AND SYPHILIS IN THE BALTIMORE POLYCLINIC.

THE idea of dermatologists for a long time past has been to find a means of making applications to the skin, which while containing the proper ingredients, would be manufactured in a form most comfortable to the patient. The inventions of Prof. Unna are a great step forwards in this direction. What recommends them, is their ease of application, their cleanliness, their durability, the comfort they afford the patient, and their efficacy in effecting a cure. There are other remedies which will cure as well, but up to the present time nothing has been invented in the author's experience which so well answers their purpose as these elegant preparations.

Short notes of a few cases taken from many are given in this paper to illustrate how they may be used in almost every form of skin disease.

CASE I.—Mrs. R., æt 60, has had chronic eczema of face, legs, and arms for many years. After trying ung. salicyl. five per cent. for some time with benefit, a fifty per cent. plaster of ac. salicyl.[1] was applied to the arms. It began to burn so, it had to be removed in ten minutes. The lead plaster[2] (salbenmull) was used however with great relief, though the arms were not cured entirely until the ordinary rubber bandages were used upon them. In places where eczema appears in small patches the plasters are especially useful.

Having found the action of the fifty per cent. plaster so intense I wrote to Mr. Beiersdorf to send me some five per cent. and ten per cent. salicylic acid plasters. They proved to be gently stimulating, sticking firmly to the skin, and soothing to the itching.

CASE II.—Mrs. M. showed two spots of eczema on back of neck which were about three centimetres in diameter. They had lasted four years, and had been treated with almost all known salves as well as with Prof. Pick's salicylic gelatine five per cent. The latter acted very well, but was so uncomfortable to the patient by catching in the dress and pulling upon the hair it had to be given up. The plasters were then resorted to. First, the spots were covered with a fifty per cent. salicyl plaster which was kept on for twenty-four hours. Upon its removal the spots were much irritated, were quite painful, but the itching had disappeared and their scaly appearance changed to a bright red color. The ten per cent. plaster was then applied, and while it has soothed the itching it has hastened the cure. The case is progressing most favorably.

CASE III.—A young man from the country with psoriasis orbicularis et punctata universalis, which had lasted one year, increasing from a few spots on his arms so as to cover the greater part of his body. Treatment was begun with Pick's chrysophanic acid gelatine ten per cent. It acted very well, but owing to the intense heat prevailing at the time, and the profuse perspiration of the patient which either softened or melted the gelatine, it was discontinued. Chrysophanic acid eighteen per cent. plasters were then applied, the pieces being cut just large enough to cover each spot. The patient applied the plaster himself to all places excepting his back, which part was kindly attended to by my assistant, Dr. Keyser. It is hardly necessary to say that the scales covering the spots were of course first scraped or washed off. There were over two hundred spots to cover, but after the first application much time was not required, since a renewal was only needed when a piece fell off. The patient spent two weeks in a private hospital in the city enjoying himself visiting his

[1] These plasters are made in Hamburg, and consist of a thin layer of India-rubber spread upon muslin, and upon the rubber the medicine is spread. They come all prepared for application and may be cut into any size.

[2] These plasters differ from the others in having no India-rubber, but consist of the common ointments, such as lead, zinc, white precipitate, etc., spread upon muslin. They come in rolls, can be cut into any sized piece, and they keep indefinitely.

friends, going to the theatre, and conducting himself as if he were not peppered over with medicated plasters. At the end of that time he returned home cured, with a package of plaster in his valise and a grateful heart in his body.

Case IV.—Female child, eighteen months old, had eczema of cheeks with scattered spots on the arms and legs since birth. In this case the salicyl gelatine, five per cent., acted for a time very well, but its application becoming distasteful to the child the parents asked me to stop it. The lead and vaseline muslin plaster was ordered, and proved satisfactory. The child is entirely well.

Case V.—Mr. ——, æt, 70. Chronic eczema of the left palm for seven years. Has tried every known salve and wash. Thinking it useless to go through the list again, I first softened the skin with a ten per cent. salicylic ointment and then applied ten per cent. salicyl gelatine. The gelatine proved an uncomfortable application for such a surface and was consequently given up. A piece of salicyl plaster, fifty per cent., was then applied and left on forty-eight hours, with the result of removing the whole of the upper surface of the skin. A ten per cent. plaster was then ordered and the patient's hand was more comfortable than it had been for many years. This treatment, viz., the application of the strong and then the mild plaster has been repeated several times, the hand being in a fair way to recover ultimately.

Case VI.—Mrs. S., æt. 50, has suffered with eczema of the fingers for five years. The same treatment as in Case V. was repeated, the fingers being wrapped first in the strong plaster, and then in the mild. The result was still better, for there was a complete cure in six or seven weeks.

Case VII.—Mrs. D., æt. 45. Tylosis of the hands and feet of three years standing. The epidermis was tough, thick, and unhealthy looking, the extremities cold. The patient was of a very nervous temperament, and disliked applications of any kind. She was persuaded to try the plasters, and although benefited for a time would not persist with them. The most satisfactory part of this case was the disappearance of a large and painful corn between the little and next toe of the left foot by the application of the fifty per cent. salicyl plaster for forty-eight hours. The corn was easily removed after the plaster. This result coincides with my experience in other cases of corn, in which the plaster has been used with most satisfactory result. The first effect of the plaster under such circumstances is to make the part rather tender, but the second effect after the removal of the corn is a feeling of great relief which lasts longer than when the corn is extracted or shaved off immediately. In one case the corn has given no trouble for six months and still lies dormant. It is well known that salicylic acid enters into many patent corn solvents, but none seem so beneficial as the above-mentioned plaster.

Case VIII.—Mr. R., æt. 23, has had a chronic eczema of the third finger of the right hand every winter for fourteen consecutive winters. The plasters of salicylic acid were applied as above and a cure effected in three weeks which has been lasting.

Case IX.—Mr. S., æt 38. Has had chronic eczema of the scrotum and inside the thigh for many months. Oxide of zinc muslin plaster was ordered and kept upon the parts for two weeks with marked improvement. Lead and vaseline muslin plaster was then used for a week and the disease appeared cured. After a few weeks, however, the patient fearing return of the trouble on account of the itching consulted me again. A ten per cent. salicyl plaster was applied during forty-eight hours. It caused some soreness, which was however immediately relieved by the use of the lead muslin plaster, and the patient is now entirely well. The ten per cent. salicyl plaster was stimulating enough for such tender parts, especially as the man was compelled to be walking all day long.

Case X.—Miss P., æt. 16, has had a disfiguring, dry chronic eczema of the cheeks for several years. Has used all kinds of ointments. I ordered for her lead and vaseline muslin plaster for the face, to be applied only at night, as she had to go to school every day. She had also a chronic eczema of both legs as far up as the knees. An ointment of salicylic acid, five per cent., in vaseline, was prescribed for it. She returned in a week very much improved, and was not to return again unless the disease became worse. It has been two months since she has been seen personally, but friends of the patient have reported most favorably.

Case XI.—Mr. S., has had psoriasis orbicularis of right elbow for a year with psoriasis punctata of head and palms. Chrysophanic acid plaster, eighteen per cent., was ordered for the elbow and palms. The disease has disappeared from the elbow in two weeks, but the hands on account of their being in constant use were not well covered with the plaster and consequently are still diseased. Several small spots on the wrists where the plaster did stick have disappeared. A pomade of white precipitate ointment was used for the head with much benefit.

These are some of the cases from private practice in which the various plasters have been used.

Unfortunately their cost is so great that when they reach this country they cannot be used extensively in dispensary practice. A piece of plaster which costs fifty cents in Hamburg, must bring more than twice that amount to pay the extortionate duties which our government demands, besides the express and profit to the importer.

The plasters have been found useful however in several cases at the Polyclinic Dispensary, and their use would have been more general if their cost had corresponded to cheaper applications. In some cases patients have been willing to buy them rather than return to the ordinary remedies.

One case of lupus vulgaris in a girl æt. 14, has been greatly benefited by the forty-five per cent. pyrogallic acid plaster. The disease extends over both cheeks, the upper lip and nose. The septum nasi was perforated when she first came to the dispensary, and the whole face was a mass of ugly scabs and ulcerations. At present the face is covered with healthy looking epidermis, although there are underneath it many lupus nodules still remaining. As the patient lives in the country and cannot come

often to town the treatment must necessarily be of long duration.

Among the others a case of ainhum was interesting. The patient, a negro æt. 42, had lost the little toe of the right foot from this disease two years before. He came to the dispensary to have the little toe of the left foot removed because it was very painful and an operation on the right little toe had relieved him previously. The toe presented the usual appearance of ainhum—a deep constriction with an enlarged toe beyond. It was so sensitive it could not be touched without intense agony, the pain running far up the leg, while the man in walking suffered with every step. Having noticed the anæsthetic action of salicylic acid in the treatment of corns, and not wishing to remove the toe immediately, I put a strip of the fifty per cent. salicyl plaster round the constriction, gave the patient a ten per cent. salicyl acid ointment, which he was to apply if the plaster came off, and I told him to return in two days. To the surprise of everyone, when he did return he said his toe was all right and he would not take off his shoe until solemn promises were made that I would not cut it off. When his foot was bare he took hold of the diseased toe himself and moved it all about without pain. I also moved it in all directions without any evidence from the patient that he felt it. The constriction was still there, and altogether the appearance of the toe had not changed in the slightest. Amputation was advised but the man would not hear of it. He did not care if the toe did drop off of itself, all he wanted was relief from the pain, and this he got from the plaster and salve. He was given more of each, promising to return if the toe got painful. He has not been seen for four months. As he is a sailor by occupation, and goes from port to port, it is doubtful whether the final result will be known, but that the temporary relief was very great can be well understood, since the man, although he had before, suffered so much from the toe was sufficiently well satisfied with the plaster and salve to trust to their virtues rather than to undergo an operation which promised absolute removal of the cause, an operation which from past experience with the little toe of the other foot he knew would give him permanent relief.

These cases are sufficient to call the attention of the profession to Prof. Unna's plasters, which are indeed worthy of the highest praise for their neatness and ease of application.

MEDICAL PROGRESS.

Pathogeny of Fetid Abscess of the Limbs.—Dr. G. Nepveu proposes the following explanation as to the cause of fetid abscess of the limbs:

1. Fetid abscesses of the limbs are very rare, and are presented under various conditions:

a. In consequence of rupture of vessels which in certain pathological conditions contain bacilli, and by direct inoculation of the contaminated blood into the tissues, constituting anto-inoculation.

b. In consequence of entrance into the tissues of bacteria, originating externally (from wounds, etc.). Under this head may be included their direct incarceration in the tissues, which is brought about by means of a granulating membrane.

2. The persistence of bacteria, or their origin from incarceration, is indubitable; in cases under the author's observation, they have been seen at the end of fourteen and of ten years.

3. Traumatism may have the effect of producing serious septic (bacterian) inflammation, viz., phlegmon and fetid abscess by a veritable inoculation of the peripheral tissues.

4. Long incarceration confirms the opinion that the bacteria are the real and only cause of the extreme fetor which is characteristic of these abscesses.—*Gazette Médicale de Paris*, April 25, 1885.

The Actual Cautery, in Ocular Therapeutics.—Dr. Turazza, in the *Gazzeta degli Ospitali*, of May 6, 1885, after discussing the indications for the use of the actual cautery in ocular therapeutics, cites the conclusions of Lavallée upon the same subject:

1. Cauterization is an excellent method for the cure of benign ulcer of the cornea which has become indolent, and also against rodent ulcer.

2. It is non-efficient in the serpiginous ulcer of hypopyon.

3. It may be used in suppurative or phlyctenular keratitis with threatened corneal ulceration, in partial opaque staphyloma, and in simple hernia of the iris.

4. Its use has not been sufficiently studied in vascular parenchymatous keratitis, in leucoma, ciliary blepharitis, and in granular conjunctivitis.

5. It arrests the accidents consecutive to septic infection from a wound of the cornea made under treatment.

6. It produces favorable results in entropion and lachrymal fistula, and gives encouraging results in non-cicatricial ectropion.

6, It combats efficiently the return of pterygium and of cicatricial fleshy growths.

8. It is well tolerated by the conjunctiva and eyelids, and gives good results in chalazion. It replaces, for the most part, cutting instruments in the removal of tumors of the conjunctiva and eyelids.

9. It does not cause serious reaction, is not painful, is limited in its action, destroys septic elements, produces an irritation favorable to cicatrization, and causes rapid cessation of pain in ulcers, abscesses, and phlyctenulæ of the cornea.

10. The galvanocautery, modified by Abadie, combines the best conditions for the application of the new method.

To obtain the best results by cauterization a reddish-brown color is recommended to be maintained in the cautery; moreover, the degree of incandescence should be proportioned to the moisture of the part.

Divulsion of the Cardia.—Professor Loreta, on the 21st of March, 1885, performed double digital divulsion upon a girl, aged 19 years. The patient was brought to Prof. Loreta sufferring from cardiac stenosis, for which he intended to practise dilatation, but, the abdomen having been opened, he discovered that the constriction extended to the pyloric orifice of the stomach, which necessitated the operation of

divulsion. The condition of the patient at the conclusion of the operation and for some time after, was exceedingly precarious, but at the present time a favorable result is anticipated. The other two patients upon whom the operation was performed are entirely cured.—*Gazzetta degli Ospitali*, May 26, 1885.

Strangulated Inguinal Hernia not Treated; Stercoraceous Fistula; Enterorrhaphy; Cure.—M. Sévier, at a meeting of the Société de Chirurgie de Paris, held March 18, 1885, gave the history of the following case:

A man, twenty-four years of age, had had from the time he was three years of age a left inguinal hernia, for which he had worn a bandage until he was fourteen. Since that time the hernia had remained only partially reducible, in the condition of a bubonocele. After a fit of indigestion the hernia became increased in volume, and showed all the ordinary signs of strangulation. Purgatives were administered. For two months, according to the patient's statement, there was no intestinal movement, and no passage of flatus. His diet consisted entirely of soups, which were vomited with other matter of disgusting taste. At the end of two months a fistula was spontaneously established, and three months later fecal matter again commenced to pass per rectum in gradually increasing quantity, although the fistula still persisted and continued to discharge fecal matter of varying consistency. The general condition of the patient was good. Enemata were immediately discharged by the fistula, and digital examination rendered it probable that the fistula communicated with the sigmoid flexure. After having tried without success to close the fistula by a skin operation, M. Sévier made an inguinal incision, circumscribing the lesion, mobilized the intestine without opening the peritoneum, and introduced sutures of silk into the mucous surface, after the method of Lembert. A second row of sutures united the edges of the fistula, comprising also the separated fibrous tissues. Corrosive sublimate dressing was applied. Flatus passed the same day per anum, and by the eighth day union was sufficiently advanced to permit the dressing to be dispensed with.

The patient at present is entirely well, requiring only a bandage to support a small hernia situated at the superior part of the cicatrix.

The mildness of the symptoms produced subsequent to the strangulation of the bowel, is phenomenal, and can only be explained by the location of the portion of the intestine involved, the sigmoid flexure of the ileum.—*Revue de Chirurgie*, April, 1885.

Treatment of Pneumonia by Cold Baths.—M. Charnier, after extended observation upon the effect of cold baths in the treatment of pneumonia, gives the following summary of his opinion as to their efficacy:

1. Cold baths are never dangerous in pneumonia at whatever period they may be employed.

2. They diminish the temperature, slow the heart, cause the bruits produced by the fever to disappear, ameliorate the dyspnœa, and allay thirst, thus permitting more abundant alimentation.

3. Having experimented only with cases which might have been cured without treatment, M. Charnier does not decide whether by their use the mortality of the disease is diminished; nevertheless, he inclines to the opinion that such is the case.

4. With adults, to obtain lasting relief, the baths should be given every two or three hours.—*Journal de Médecine de Paris*.

Hydro-pneumo-pericarditis Produced by an Ulcer of the Stomach.—At a recent meeting of the Société des Hôpitaux, M. Moizard gave the history of a case of hydro-pneumo-pericarditis caused by ulceration of the stomach.

He referred to the history of the pathognomonic symptom of the lesion, the *bruit de moulin* or windmill bruit, referred to originally by Laennec, and since his time by various French authors. Two varieties of the *bruit de moulin* are to be recognized. The first is consecutive upon certain traumatisms of the præcordial region, and is characterized by the disappearance of the bruit when a sitting posture is assumed; its prognosis is benign, and cure is the rule.

The second confirms the presence of gas and of liquids in the pericardial cavity, and does not disappear when the patient sits down; in this condition death is the rule.

The patient, whose history Dr. Moizard reported, was a woman 56 years of age, who entered the hospital with violent epigastric pain, and presented a cachectic appearance so marked that cancer of the stomach was suspected. Nothing abnormal was heard on auscultation of the heart. Some time subsequently a metallic bruit was noticed, the patient, however, showing no signs of palpitation or dyspnœa. The day following there existed a typical *bruit de moulin*, perceptible over the whole anterior thoracic region and not disappearing when the patient was placed in a sitting posture. The præcordial region was tympanitic in resonance. There was no dyspnœa, but in a short time the pulse began to increase in frequency and nausea supervened followed by cold sweats and collapse and death.

At the autopsy a perforation of the stomach was found situated at the region of the greater curvature, and whose edges were closely adherent to the diaphragm. The ulcer measured three inches in diameter, and free communication existed through the perforation between the stomach and pericardial cavity. The pericardium was also adherent to the diaphragm.

The only cause of the perforation of the stomach was the ulcer, there being no evidence of cancerous degeneration.—*L'Union Médicale*, May 12, 1885.

Ammoniacal Disks as Vesicatories.—Dr. Guido Turazza, in recommending ammoniacal disks for vesication, claims the following advantages:

1. Ease of application, moderate cost, and a duration of pain much shorter than that produced by actual blisters.

2. They produce in a short time the remedial effect of blisters, and may be used in cases where a speedy result is desirable, thus possessing an advantage over blisters and being far superior to sinapisms and cupping glasses.

3. They may be used in cases in which blisters are contraindicated on account of the danger of toxic effects.—*Gazzetta degli Ospitali*, May 3, 1885.

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THE PREALBUMINURIC STAGE OF CHRONIC BRIGHT'S DISEASE.

IT has long been known that in the form of chronic Bright's disease known as interstitial nephritis, not only is the albumen as a rule small in quantity, but even at times altogether absent. In like manner, casts are scanty and sometimes totally wanting; so, too, it has long been recognized that this disease may exist for some time undiscovered, even until the convulsions or apoplexy, which are such frequent modes of its termination, usher in the end.

Recently, however, increased attention has been called to the fact of the insidious presence of this disease in a large number of cases, a long time before albumen is discovered, and even where pains are taken to look for it, and that the disease may run its course from beginning to end without the presence of albumen.

This being the case, increased effort has also recently been made to point out symptoms by which the presence of contracted kidney may be recognized independently of albuminuria. Conspicuous among writers attempting this has been the late DR. MAHOMED, of London, and recently DR. CHARLES W. PURDY, of Chicago, read an excellent paper on this subject before the Chicago Medical Society.

Seeking for such symptoms, Dr. Purdy first points out the fact that renal cirrhosis is most frequently developed after middle age, the largest number of cases occurring between 41 and 50 years, and the next between 51 and 60.

Second, it is found most often in persons who live generously, eating largely of highly seasoned and flavored meat food, and drinking freely wines and other alcoholic liquors.

Third, as to the cutaneous system, he calls attention to a peculiar pallor of the skin characterized by Dickinson as the *pallor luteus*, an appearance somewhat anæmic, though a sort of sunburnt tinge obscures the pallor. Deficient perspiration is also named as a common accompaniment of early cirrhotic disease, producing a dry, harsh skin. Erythema and acne rosacea may occur, but generally later.

Fourth, is diminished muscular power, manifested by weakness and indisposition to exertion characteristic of the disease in its more advanced stages. Emaciation is also occasionally present.

Fifth, dyspepsia, especially of the flatulent kind, is said to be one of the most constant of the symptoms of this form of renal disease in the absence of albuminuria. Loss of appetite and nausea, especially in the morning, are also frequent.

Sixth, of pulmonary symptoms, dyspnœa, so constant in advanced stages of contracted kidney, is also included by Dr. Purdy among those which precede albuminuria, as is also bronchial catarrh.

But the most invariable of these prealbuminuric symptoms are those connected with the vascular system. They are hypertrophy of the left ventricle and high vascular tension. We will not stop to discuss the rationale of their production. The former is recognized by its violent action and heaving impulse, and the latter by its hard, unyielding character; but it is best recognized by the sphygmograph, which has one of its most important practical applications in the recognition of this condition. The peculiarity of the high tension of renal cirrhosis is found in the fact that if a line be drawn from the apex of the up-stroke to the bottom of the aortic notch it intersects the descending stroke; whereas in the normal pulse no part of the tracing rises above this line. The aortic notch itself is higher than usual, and the length of that part of the basal line which indicates the duration of systole is also greater.

Retinal changes also precede the albuminuria of contracted kidneys, the most frequent being the white spots and patches due to degeneration. The changes in the arteries of the retina pointed out by Gowers, a narrowing of the lumen, independently of other evidence of retinal disease, may also be present.

Finally, polyuria, in which the urine at first has a higher specific gravity than normal—1020 to 1035—the urine of advanced contracted kidney is well known to have its specific gravity diminished—may precede albuminuria. Such urine is also apt to contain crystals of urea and oxalate of lime, and may strike the blue hæmoglobin reaction with peroxide of hydrogen solution and tincture of guaiacum.

It is evident, however, that there are very few of

the above symptoms which may not be present in the economy quite independently of any renal disease, and therefore, they are of uncertain value in diagnosis. The most important of these are the symptoms connected with the vascular system and the retinal changes, together with the habits of living. The remainder are, indeed, more frequently due to other causes, and retinal or vascular changes do not coexist.

We still hold that a certain diagnosis without albuminuria is impossible. Indeed, it seems scarcely justifiable to consider some of the symptoms referred to as characteristic, as, for instance, the pallor. We are quite certain that, in the cases of contracted kidney which have been under our observation, even when albuminuria has been established, the large majority have exhibited a ruddiness of complexion and color which are the very opposite of anæmia.

The importance, however, of a full knowledge of this subject cannot be overrated, and we are especially indebted to Dr. Purdy for calling attention to the symptoms of the prealbuminuric stage in a systematic manner.

RUPTURE OF THE VAGINA FROM COITUS.

The subject of tears of the vagina in coition derives special interest from some recently published cases of this accident. That the vagina can be thus torn has been denied by some, while others have expressed doubt as to whether a serious hemorrhage could be thereby caused. For example, Breisky, in Billroth's *Handbuch*, observes that the fact of brutally performed coition causing fatal injury is doubtful. He quotes Hoffman, who questions whether, even in raped children, the vaginal tears are to be attributed to coition, but rather to rough manipulation. A similar doubt is also expressed by v. Preuschen, *Real Encylopädie der Gesammten Heilkunde.*

The older authors reported cases of the accident where death occurred, rejected indeed by Breisky, but which are indirectly confirmed by recent observations. Even the remarkable case given by Demerbroc does not seem impossible. A bride after the first coitus had such a violent hemorrhage that Diemerbroc says: "ut intra tres horas una cum virginitate etiam vitam amiserit."

The Centralblatt für Gynäkologie, of February 21, 1885, contains the report of a dangerous hemorrhage from a rent of the hymen in coition, and one of rupture of the vaginal vault from the same cause; these cases are given by Dr. Zeiss, of Erfurt. In the first, Dr. Zeiss did not see the patient until 4 P.M., the day succeeding the night of the accident. He found her pulseless, pale, bathed in a cold sweat, and a pool of blood about the thighs, sides of the pelvis, and back. After the removal of the blood he found two rents of the hymen, one on each side, and from the left which extended to the vaginal attachment of the hymen, a continuous stream of blood was pouring from a torn artery. The suture was used to arrest the hemorrhage, and by stimulants reaction was accomplished. The suture was removed on the third day, and there was no recurrence of the bleeding.

The second case was one where a married woman who had borne a child a few weeks before, had her vagina ruptured by coition, which was *a la vache.* In this woman the uterus was strongly retroflexed, and the cervix hard and fixed at the right side, and upon this side of the vault there was a tear large enough for the finger to enter readily.

Dr Chadwick, in the *Boston Medical and Surgical Journal,* April 30, narrates a case of vaginal rupture occurring in a woman forty-eight years of age, who had been married six years to a sailor, and cohabitation had occurred freely without difficulty or pain. Her husband returning after four months absence, intercourse took place causing a rupture an inch long, in the upper third of the vagina, opening into the connective tissue. In the same journal for May 14, Dr. Mundé reports two cases of dangerous hemorrhage from rupture of the vagina in coitus; these cases had been previously reported, and their repetition was suggested by Dr. Chadwick's paper. Both of Dr. Mundé's patients had been married the previous day; in one the rent was an inch long, and began at the hymen; in the other it was on the left side of the vagina, fully two and a half inches in length, half an inch deep, and extended from about an inch above the hymen nearly to the vaginal vault. The length of the vagina in the second patient was extraordinary, its side measuring apparently not less than four inches. The hemorrhage in each case was arrested by tamponing.

The London Medical Times and Gazette, vol. i., 1860, contains the record of a case operated on at the Samaritan Hospital, by Sir Spencer Wells, where rupture of the recto-vaginal wall occurred at the consummation of marriage.

Dr. Ross reports in the *Canada Medical and Surgical Journal,* 1877, the case of a patient in the Montreal General Hospital sixty years of age, with rupture of the vagina; her husband, seventy years old, had been absent nine years, and returning insisted upon coitus, which caused violent pain, and an exhausting hemorrhage that came from a rent an inch long in the upper part of the vagina, just behind the cervix.

Kleinwächter, in the *Wien. med. Presse,* 1880, reports a case of rupture of the vagina occurring from violence during sexual intercourse. The subject, twenty-two years of age, was brought to the clinic in an unconscious condition, underclothes, abdomen, and legs covered with blood, and bleeding from the vagina. Upon examination, the labia majora and

minora were found œdematous, the perineum greatly swollen and discolored; the posterior wall of the vagina had a triangular tear, the base of the triangle being below, the length of the wound from above down was two inches. In this case it is believed the injury resulted from the use of the fingers or hand.

The Indian Medical Gazette for 1872 contains the report of a case in which a native drugged his wife, who had not yet reached puberty, and then had intercourse with her. She died of hemorrhage, and a post-mortem showed a rent one inch and a half long in the posterior wall of the vagina and the perineum torn to the anal sphincter, and a second rent in the anterior wall close to the cervix.

The Gazette of the same year also contains the report of a case where an English officer had intercourse with a girl between eleven and twelve years of age. She died from loss of blood, and a rent in the vagina, including the fourchette and extending two inches in a longitudinal direction, was found.

It will be seen from some of these cases that there may be a fatal hemorrhage even from coition, in others at least a dangerous bleeding, while in one probably the injury to the vagina was done, as suggested by Breisky and Hoffman, by the hands.

A WORD OF WARNING.

JUST about this time multitudes of people are laying their plans for the summer vacation, and are casting about for a spot for a brief sojourn away from home. To such, a word of caution with regard to the importance of investigating the sanitary arrangements of their proposed summer resting-place, before making a selection, will not be out of place.

Before choosing a summer home it is usual to inquire particularly about the situation of the house, the eligibleness of the rooms, the character of the service, the quality of board, and the class of guests entertained, and very properly so; but none too frequently is a question asked or an inquiry made with regard to the water-supply or the drainage arrangements, both subjects of paramount importance to health. Fortunately, the proprietors of public houses are being forced to realize their responsibility to the public, and are now giving more attention than ever to matters connected with the health of their patrons. If the public patronized no house which is not provided with pure water and a perfect system of drainage, these essential features of a healthy habitation would soon be supplied.

The results of the summer vacation are often most disastrous. For the want of exercise of common prudence and foresight, many a one, who has left home in search of health or recreation, has been overtaken by preventable disease, or has returned with the seeds of some malady already implanted in his system. Beauty of location, salubriousness of climate, comforts and conveniences, and pleasant society are not to be undervalued, but they count for naught if the air and water-supply are poisoned through defects in the drainage system. Without perfect drainage and wholesome water, the safety of no locality can be insured, however attractive it may be in other respects. It is, therefore, the duty of every one seeking a summer resort for his family, to make diligent inquiry on both these points, and to satisfy himself that there is nothing wrong about either of them, before coming to a decision. If this is not done, the responsibility of having exposed the health of his loved ones to serious risk will rest largely upon his own shoulders.

A word of advice should also be directed to the keepers of seaside watering-places, and country and mountain resorts. Now is the time for them to correct defects and supply deficiencies. In a short time they may expect to be questioned shrewdly as to the sanitary advantages of their houses. If they have been negligent in providing everything necessary for the health of their guests, they may expect to lose patronage, and deservedly so. The business of a season and the reputation of a house have been destroyed by the occurrence of sickness due to inattention to these important matters. But a higher motive should actuate them to comply with the requirements of sanitary law. The dictates of humanity and honesty forbid that advantage should be taken of their patrons by offering accommodations professedly safe, when no effort has been made to guard them from dangers which lie concealed from view, and of which they have had no means of gaining a knowledge.

MILK DIET IN THE ALBUMINURIA OF PREGNANCY.

TARNIER'S treatment of the albuminuria of pregnancy by an exclusive milk diet has counted in his hands, as well as in those of others, many successes, and it has received a very strong endorsement from Charpentier, among recent obstetric writers. Under this treatment it is usual to see the albumen lessen, in some cases disappear, and the symptoms which threaten eclampsia, such as headache, dimness of vision, indisposition to exertion, and drowsiness, cease, or become much mitigated. In some cases, however, it is important to conjoin with milk diet a hot bath once in three or four days. The temperature of the bath should be from 98° to 100°, and while in the bath or immediately after it, the patient should drink a tumbler of hot milk. A profuse perspiration usually follows, and the relief is prompt and positive. In one case, however, now under our observation, a primigravida now in the eighth month, who has had albuminuria for at least four months, and who derives marked benefit from the hot bath, has also a very serious discomfort following it. There is unusual and violent activity of the fœtus

always occurring after the bath, so that she is for some hours unable to sleep,—a very serious inconvenience, as the usual and most favorable time for the bath is just before retiring.

Valuable as most practitioners regard the milk treatment of the albuminuria of pregnancy, some entirely reject it. Pajot, for example, in a recent discussion held at the Paris Obstetrical and Gynecological Society, and reported in the *Journal d'Accouchements*, May 5th, refers to it as a bitter pleasantry. One of his arguments against the milk treatment is that infants from six months to the end of the first year, are peculiarly liable to eclampsia, and yet they are then on milk diet. Guéniot very well answered this argument by saying that these infants that have eclampsia are not albuminuric, and the milk diet in albuminuric pregnant women does not act upon the eclampsia, but upon the albuminuria; it is only indirectly by curing the albuminuria that it renders eclampsia much rarer. It is impossible to attribute infantile and puerperal eclampsia to the same cause.

DIAGNOSIS OF GONORRHŒA IN THE FEMALE.

MARTINEAU, at a recent meeting of the Paris Obstetrical and Gynecological Society, stated a most important fact by which specific can be distinguished from simple vaginitis. It depends upon this that in the specific form of the disease the pus is always acid, while in the simple it is alkaline. It is very easy, therefore, to decide by a piece of litmus paper as to whether a woman is or is not suffering from gonorrhœal inflammation.

This sign will prove of value, too, in determining, when rape has been committed, whether the person committing the crime was affected with gonorrhœa, for then the vulvitis would be characterized by an acid discharge, while in the simple form of the disease the discharge is alkaline.

SOCIETY PROCEEDINGS.

OHIO STATE MEDICAL SOCIETY.

Fortieth Annual Meeting, held at Dayton, June 3, 4, and 5, 1885.

(Specially reported for THE MEDICAL NEWS.)

THE Society convened in Association Hall, and was called to order at 2 P.M. by THE PRESIDENT, DR. J. C. REEVE, of Dayton.

DR. W. J. CONKLIN, President of the Montgomery County Medical Society, in a few appropriate words, tendered the members a hearty welcome to Dayton.

DR. WEAVER, Chairman of the Committee on Arrangements, made a detailed report of the arrangements already made for this meeting, the order of exercises, receptions, and extended formal invitations to the members to visit the various charitable institutions located in and about the city.

DR. COLLAMORE, of Toledo, read

THE SECRETARY'S ANNUAL REPORT,

showing the following facts. In 1882 the membership of this Society was given as 540, of whom 13 were non-resident. Since then it has been increased by 79 new members, admitted at last meeting, and the restoration to membership of 4 old members, in all 83, while it has been diminished by 47 forfeited memberships, 8 deaths, and 1 expulsion—56 in all—showing a net gain of 27 members. The present enrollment is 567, of which 13 are non-resident members. It appears that during the past year seven of the auxiliary societies abandoned their organizations. It is a deplorable fact that there are at least 18 counties of the State in which there is no local medical organization.

DR. JONES, of Columbus, presented

THE TREASURER'S REPORT,

showing a balance of $477.82 in the treasury.

The Special Committee appointed last year to secure the passage of a bill by the Legislature creating a

STATE BOARD OF MEDICAL EXAMINERS,

reported at length, through Dr. Weaver, of Dayton. In order to secure the opinion of the profession throughout the State, the Committee sent copies of the bill, already endorsed by this Society, to every prominent physician, accompanied by a circular letter requesting a written opinion. The responses were very numerous and favorable. All of the local societies in the State, with one exception, endorsed the proposed legislation. The Committee worked energetically, but when the bill was put upon its passage it was defeated, and, singular to state, its defeat was due to the petty jealousies and opposition of the ten medical members of the Legislature, nearly all of whom had some bill of their own creation for which to work. After considerable discussion at various times during the session, it was finally agreed to continue the same Committee for another year, and to authorize them to draw from the treasury a sum not to exceed $500, with which to defray their necessary expenses.

DR. BALDWIN, of Columbus, reported that he had recently secured for the Society from Dr. J. B. Thompson, of Columbus, a

COMPLETE SET OF THE SOCIETY'S TRANSACTIONS,

believed to be the only complete one in the State. Dr. Thompson, whose death has occurred since making the gift, was a charter member of the State Society, and was its Treasurer for many years. It was subsequently agreed, upon recommendation of the Finance Committee, to whom the matter had been referred, that this set of *Transactions* be accepted, and, in accordance with the request of the donor, be placed in the State Library at Columbus.

The Secretary was instructed to place annually a copy of the *Transactions* in the same library, so the file may be kept complete.

THE ANNUAL ASSESSMENT

upon members for the ensuing year was fixed at one dollar.

DR. GILL, of Cleveland, Chairman of the Committee on

GENERAL COLLECTIVE INVESTIGATION OF DISEASE,

made a verbal report. The Committee had not matured a plan of action. After a long discussion, it was resolved to continue the same Committee for another year, and to authorize it to appoint an additional member from each county in the State to assist in the work.

DR. C. A. L. REED, of Hamilton, read a paper on

PELVIC HÆMATOCELE.

He took advanced views in its treatment. In view of the protracted nature of these cases, and the fact that absorption of the effused blood takes place slowly, if at all, and especially in view of the protracted and hazardous invalidism which generally ensues upon these extravasations, the position was taken that something should be done to control the initial hemorrhage. A case was given illustrating the dangers of too conservative treatment. Abdominal section and the ligaturing of both extremities of the broad ligament, so as to include all of the underlying vessels, was suggested as a possible expedient in desperate cases. The evacuation of the sac after the arrest of hemorrhage, and either before or after suppuration, is best accomplished by making an incision along the upper margin of Poupart's ligament, and elevating the peritoneum in cases in which the extravasation occurs beneath the fold of the broad ligament. A case was given in which the operation had been made with success.

DR. C. D. PALMER, of Cincinnati, followed with a paper on

A RARE COMPLICATION AFTER OVARIOTOMY.

The complication was the appearance of a *fecal fistula* twelve days after the operation. The fistula opened in the median line, midway between the umbilicus and the pubis, and seemed to be connected with the lower small intestine. The discharge, at first, amounted to about one ounce per day. The literature of this rare complication was exhaustively given by the author. The query was raised as to whether these fistulæ should be closed by operation or left to nature. The author advocated the latter course. Fatal results have followed the operation, and a very large majority of these fistulous openings close spontaneously within a year.

DR. MILLER, of Cleveland, and DR. DUNLAP, of Springfield, reported cases in which fecal fistulæ following ovariotomy have closed without an operation.

In the evening the members and their wives were pleasantly entertained at the Southern Ohio Insane Hospital by the trustees and officers.

THURSDAY, JUNE 4TH.—SECOND DAY.

MORNING SESSION.

THE COMMITTEE ON ADMISSIONS AND MEDICAL SOCIETIES

reported favorably on the applications of the Hempstead Academy of Medicine, of Scioto County, and the Lake County Medical Society, and the Columbus Medical Club, to become auxiliary societies. The application of the Midland Medical Society, of Fayette County, was rejected on the ground that the Code of Ethics of the American Medical Association is not specifically endorsed in its Constitution and By-laws. After considerable discussion an amendment to the Constitution was defeated, by which membership in the State Society could be acquired without first becoming a member of the local society.

DR. REED, of Mansfield, then read a paper on

VITILIGO,

in which he stated that Dr. McCall Anderson had only met with this disease four times in eleven thousand consecutive cases of skin disease. It is caused by a lack of the proper action of the nerves controlling the supply and distribution of the pigment. On examination under the microscope, it will be found that in some instances an increase of pigment takes place in the parts adjacent to the white spots, which gives rise to the peculiar mottled appearance of these patients. The author reported the histories of five cases which had occurred under his personal observation. He considered the disease incurable, but spoke favorably of the use of electricity.

DR. DAN. MILLIKIN, of Hamilton, presented a valuable paper on

EMPYEMA AND ITS TREATMENT BY DAILY ASPIRATION THROUGH A DRAINAGE-TUBE.

On theoretical grounds, he advocated the introduction of a small tube into the affected side of the chest, through which fluid should be aspirated and injected. He laid stress on the importance of keeping the opening air-tight, in order that there might be produced each day a partial vacuum in the chest; that vacuum to be maintained for upwards of an hour and thus solicit the expansion of the lung. The views propounded were illustrated with the brief histories of two cases in which it had been successfully carried out, though the reader stated that he merely approached the subject as a theorist, seeking for that which is not to be found in any accepted treatment, viz., some means of preventing the lung from going to destruction by reason of its own elasticity.

DR. P. S. CONNER, of Cincinnati, presented a paper on

VESICAL EXPLORATION.

He spoke of the frequent difficulty of diagnosticating correctly conditions of the bladder. Endoscopic examination, of some value in females, is almost useless as a means of interrogating the male bladder.

After considering the various modes of examination and emphasizing the fact that they are all unsatisfactory in certain cases, he urged a resort to perineal section in these cases. The danger is slight, and the great advantage which results from digital examination of the bladder is certainly evident. The operation and exploration are easy and satisfactory in thin subjects. Some French surgeons advocate the suprapubic method of exploration rather than that by perineal section. The author gave the preference to the latter method both on account of the safety of the operation and the greater ease with which the exploration can be made.

DR. S. C. AYRES, of Cincinnati, read a paper on

DIABETES,

giving two cases with interesting eye complications. In the first, there was an attack of amblyopia which lasted

about one month, during which time the patient suffered severely with headache. The optic disks were blanched, but vision in the right eye was good, while that of the left was considerably impaired. The urine was loaded with sugar. In the second case, there was acute papillitis of both eyes, with marked impairment of vision. There was also occasional attacks of pain in the head with vertigo, followed by nausea and vomiting. He was under the care of Dr. Sharp, of London, who put him on the arsenite of bromine, under which rapid improvement took place. The patient was present and was examined by many of the members. Ophthalmoscopic examination showed atrophy of the optic nerve—his vision was greatly impaired.

Afternoon Session.

THE PRESIDENT'S ADDRESS.

Dr. Reeve dealt with medical history and questions of medical politics. The subject was *The Latest Systems in Medicine*. These were the systems of Brown, of Broussais, of Rasori, and of Hahnemann. Each was briefly sketched in its leading features. Then was considered the influence exerted by each on therapeutics. A potent factor in causing the acceptance of homœopathy was held to be the abuse of bloodletting by the profession, and a sketch was given of this sad page in the history of medicine. The claim of homœopathists that the entire reaction was against this abuse, and the institution of a milder form of treatment was then considered and refuted. All progress was in that direction, and the names of Graves, Louis, Laennec, Marshal Hall, and Forbes, with Minor, and Tully, and Bigelow were mentioned in this connection. The changes introduced into the practice of homœopathy since Hahnemann's time, were then briefly alluded to, and by quotations from writers of that school it was shown that there were the widest differences of opinion among them upon leading points of their creed. So varied are these opinions, that to say a man is a homœopath, does not define him with any accuracy.

The speaker gave three classes: 1. A few who are pure Hahnemannians. 2. A class of honest believers in the law of similars, who are not rigid as to the dose, who believe in educated medical men, and who sustain medical legislation. These are dropping their distinctive title and are on their way back to the regular profession. No obstacles should be placed in their way. 3. The largest class, who pursue sectarianism in the spirit of trade, who traduce the regular profession, misrepresent it, and live by keeping alive in the public mind prejudices against its practice.

The bearing of this diversity of opinion upon the question of consultation with this class of practitioners was also considered. Time did not permit a pursuit of the subject into the future. But were there to be other symptoms in medicine? Was pathology to be based on microörganisms, and was therapeutics to consist in the administration of germicides? A warning was given against the error of the system-makers generalizing from too few facts.

The Society then proceeded to the

Election of Officers,

which resulted as follows:

President.—W. Morrow Beach, M.D., of London.

Vice-Presidents.—H. C. Gill, M.D., of Cleveland; H. R. Kelly, M.D., of Galion; T. McEbright, M.D., of Akron; and I. D. Robinson, M.D., of Wooster.

Treasurer and Librarian.—T. W. Jones, M.D., of Columbus.

Secretary.—G. A. Collamore, M.D., of Toledo.

Assistant Secretary.—E. C. Brush, M.D., of Zanesville.

Akron was chosen as the *place of meeting* in 1886, and the *time*, the first Wednesday in June.

Dr. Himes, of Cleveland, presented a very interesting essay on *Cases Connected with Life Insurance Examinations, with Remarks.*

Dr. G. W. Ryan, of Cincinnati, read a report on the

Influence of Spinal Irritation as an Orthopædic Factor.

The influence of spinal irritation in the production of various deformities was carefully pointed out and numerous cases cited in proof of the author's statements. An interesting case of spasmodic clubfoot was related, which was readily relieved by treatment directed to the spine. Two other cases, who had been unable to walk for years because of this condition, were cured within a comparatively short time. The essayist placed little reliance upon the remedies ordinarily recommended. He had seen no good effect from the use of phosphorus, strychnia, or ergot. He had no experience in the use of opium. The proper and efficacious treatment is by means of blisters or the actual cautery applied along the spine. Spinal support is of benefit. Faradism and massage were valuable adjuvants to treatment.

Dr. Zenner, of Cincinnati, next read a paper on

Diseases of the Spinal Cord.

After commenting upon the frequency and gravity of these diseases, he proceeded to relate several cases in which erroneous diagnoses had been made, in some instances by prominent physicians.

Case I. was a typical case of locomotor ataxia which had been diagnosed as rheumatic pains. There was no excuse for an error in a case so well marked as this, but even in the early periods of the disease, the absence of the patellar tendon reflex, lightning pains, and certain ocular troubles, especially a narrow pupil which does not respond to light, will often enable us to make a diagnosis.

Case II. was one of lateral sclerosis which had been mistaken for locomotor ataxia. The danger of placing too much dependence upon the patient's inability to stand firmly with closed eyes was pointed out.

Case III. was one of progressive muscular atrophy, unusual in the adult. The diagnosis was based upon the paralysis and atrophy of the muscles and altered electrical reactions.

The author spoke lastly of the diagnosis of functional diseases of the spinal cord, which was only to be made after a careful examination had failed to reveal any evidence of organic disease.

Dr. Corlett, of Cleveland, followed with a paper entitled

Diseases of the Skin of Reflex Nervous Causation,

and gave two distinct varieties of *neuroses cutanea*; one a senso-neurosis in which the characteristic feature is a

disturbance of cutaneous sensation unaccompanied by any lesion, the other a tropho-neurosis characterized by anomalies of nutrition.

Neuroses of the skin are met with in neurasthenic persons, either when they are suffering from pathological changes in the viscera or when the viscera are undergoing physiological evolution, as pregnancy, etc. The most marked neuroses within the author's observation have closely simulated eczema. Senso-neuroses are more frequently associated with mild conditions, nerve irritations, etc., while the tropho-neuroses more frequently follow pathological conditions of a graver import—*e. g.*, nerve lesions.

Dr. Ransohoff, of Cincinnati, read a

REPORT ON URETHRAL CALCULI.

He presented two specimens which he had removed from a man aged thirty-seven years. The patient had frequently suffered from retention of urine, necessitating the use of the catheter. When the patient came under the writer's care a large abscess was found behind the peno-scrotal angle. The abscess was opened, but no stone detected until an instrument was passed. The median operation was performed, and two calculi removed; one smooth, weighed 265 grains; the other, very irregular, weighed but 5 grains. The small calculus had doubtless produced the abscess; the larger one had probably been in the urethra for sixteen years.

In the evening a promenade concert and banquet were given by the Montgomery County Medical Society.

Friday, June 5th.—Third Day.

Morning Session.

Dr. Landis, of Columbus, presented a paper on

OCCIPITO-POSTERIOR POSITIONS,

in which the diagnosis, methods of rotation, and the use of the forceps were thoroughly discussed. A series of illustrative cases were given.

Dr. N. P. Dandridge, of Cincinnati, read

SOME CLINICAL NOTES ON OSTEOTOMY, WITH CASES.

After short quotations from recent authorities, showing that osteotomy, in experienced hands, was capable of dealing with otherwise irremediable deformities, and that the accidents following were few in number, and the percentage of mortality slight, the author gave his personal experience. In two cases the femur had been divided below the trochanters (Gant's operation); the first being a case of bony ankylosis at a right angle in an adult after hip-joint disease. The operation resulted in leaving a limb only an inch and a half shorter than its fellow. The second was a case of spontaneous dislocation in a child with necrosis of the opposite tibia, and here the result was again satisfactory.

The treatment of bowlegs was illustrated by two cases occurring in sisters, respectively fifteen and seventeen years of age. The first was successful, but the second operation terminated fatally from septicæmia. These cases were fully illustrated by diagrams. In conclusion, the author advocated strongly the advantages of osteotomy, but at the same time enforced the necessity of every care to avoid the accidents which may ensue.

Dr. Hall, of Chillicothe, next read an interesting paper on

ABDOMINAL SECTION,

in which he gave much information as to the modes and successes of the operators on the other side of the water, gleaned from personal observation.

Dr. Von Klein, of Dayton, followed with an essay on

VOICE.

After detailing some points in physiology, he passed on to a brief history of music and the famous singers of the world. He combated the popular idea that the world's greatest singers were born under Italy's blue sky. He referred at length to the climatic influences on the cultivation of the voice, and claimed that America had produced the sweetest voices and best singers of all times.

The last paper of the session was by Dr. Herrick, of Cleveland, on *Dietetics of Typhoid Fever*.

Dr. Beach, the President-elect, was introduced to the Society, and in a short but appropriate speech returned thanks for the honor conferred upon him.

After passing the usual complimentary resolutions, the Society adjourned to meet in Akron on the first Wednesday of June, 1886.

NEW YORK SURGICAL SOCIETY.

Stated Meeting, May 26, 1885.

The Vice-President, Charles McBurney, M.D., in the Chair.

PRIMARY EXCISION OF WRIST-JOINT.

Dr. McBurney presented a patient who received an unusual injury three months ago, when his hand was caught between the coupling of an engine and a car, and all the bones of the carpus with the exception of the scaphoid and pisiform were crushed. The metacarpal bones and also the radius and ulna entirely escaped injury. A large wound was produced along the inner side of the hand, lifting up about six inches of the skin, but the tendons were not torn. The comminution was so great as to require removal of all the bones of the carpus except the scaphoid and the pisiform. The operation was performed under bichloride irrigation, and a firm permanent antiseptic dressing applied with iodoform gauze and plaster of Paris, which was kept in place eighteen days, after which the dressing was changed occasionally. There was no rise of temperature at any time during the progress of the case. The man now has some motion at the wrist in every direction, even some lateral motion, and the motion of the fingers is steadily increasing. The result was very much more satisfactory than Dr. McBurney had expected. He did not know of a case where the bones of the wrist were so extensively crushed without injury to adjacent bones.

PERSISTENT PRIAPISM.

Dr. L. A. Stimson presented a man forty-eight years of age, who came under his care about a week ago, having a good family history, a doubtful history of syphilis, and who had been married twenty-five years. The first thing the patient noticed was recently that after having sexual intercourse his erection was slow to

subside, and nearly three months ago without previous trouble except rheumatic pains simulating sciatica, he noticed upon the glans penis two raised deep-colored spots, one on either side, and these were immediately followed by priapism, which has continued until the present time. The penis has remained as it is now without change in size and coloration. It was first treated by elastic pressure, which resulted in slight superficial sloughs upon the glans. The organ measures six inches in circumference, six inches in length upon the dorsal surface, and ten inches and a half from the bulb to the glans. The bulb shares in the erection, as do also the two cura, although the right is somewhat less involved than the left. There is a slight dorsal incurvation and a slight concavity towards the right. The only noticeable feature in the general appearance of the patient was a peculiar livid color of the lips, and there was exaggeration of his reflexes, most marked upon the right side. There were no symptoms of locomotor ataxia. The blood had been examined and showed no excess of the white blood-corpuscles, although there was a distinct enlargement of the spleen and liver, and also some consolidation at the apex of the right lung, and some pleuritic friction sounds upon the left side of the chest. There was but slight sexual appetite. The patient's principal suffering was from an aching pain in the perineum. The stream of urine was small, but there was no pain on micturition.

DR. MARKOE referred to a case of priapism occurring in a patient in whom there were symptoms of leucocythæmia. The peculiarity of the case, however, was in the fact that the erections seemed to be confined to the corpora cavernosa. The glans penis was almost entirely flaccid, as well as the entire corpus spongiosum.

DR. POST had had a case under his care in a man somewhat older than Dr. Stimson's patient, who had priapism equal to this which had continued about three months. Otherwise he was apparently a healthy man.

DR. MCBURNEY thought that the suddenness with which the condition developed would seem to dispose of pressure on bloodvessels as the cause, unless it was from extravasation of blood, and it would also seem to dispose of leucocythæmia as a cause. The history of the case would lead one to think of some neurosis, perhaps some disturbance of the sympathetic system.

DR. STIMSON said he regarded the case as of central origin.

DR. L. A. STIMSON then read a paper entitled

INJURIES OF THE BLOODVESSELS IN THE REDUCTION OF DISLOCATION OF THE SHOULDER.

(See page 653.)

DR. STIMSON presented, in connection with his paper, a specimen removed *post-mortem* from the patient whose case Dr. Sands reported to the Society in December, 1879, a woman 86 years old with dislocation of the shoulder of seven weeks standing. Ether was given, slight movements made to break up adhesions, and then slight traction upward and outward. Immediately a swelling appeared in the axilla, the radial pulse ceased in the affected side, and the patient was extremely prostrated, death by syncope appearing to be imminent. The condition was relieved by hypodermics of brandy, and the arm bandaged to the side. For several days the patient remained in a critical condition, attacks of syncope occurring every night, but she gradually recovered. She died in May, 1885, five and a half years after the accident.

The specimen consists of the upper part of the humerus, the adjoining portions of the scapula and clavicle, the artery, and some of the nerves. The head of the humerus has torn through the subscapularis muscle and lies below to the inner side of the coracoid process. It is slightly rotated outward; the greater tuberosity has been torn off and occupies the glenoid cavity, but has reunited with the humerus. The subscapularis lies between the humerus and the head of the scapula, and is firmly united to both.

The artery and median nerve lie at the inner border of the anterior aspect of the head of the humerus and are adherent to it. The artery is most firmly fixed at the lower part of the head, and there presents a marked narrowing and a change in direction of about 30°, the angle being open externally. The posterior circumflex artery, very much larger than usual, is given off a quarter of an inch below the narrowed point. When the specimen was fresh, liquid injected into the upper end of the artery flowed freely from its lower end; but in cutting it open longitudinally on each side of the constriction, it was impossible to detect a channel through the latter, and it is probable that the liquid made its way through the dilated circumflex. The subscapular artery could not be found.

The artery for an inch and a half above the occluded point was occupied by decolorized clot adherent to its posterior wall and terminating just below the origin of the acromio-thoracic. The artery is not atheromatous.

The injury appears to have been either a rupture of part of the wall of the artery, or possibly the avulsion of the subscapular branch; and the arrest of the hemorrhage was probably aided by the pressure upon the vessel of the head of the humerus and by the syncope.

DR. POST said that these cases formed an extremely small proportion of the cases of old dislocation which were reduced, and he would like to ask whether the danger of rupturing an artery was sufficient to deter one from undertaking to reduce such dislocations. He had had a number of cases of this character, and had succeeded in several instances in reducing the dislocation at the end of five or six months without doing injury, although he had not resorted to a very great amount of force or violent movement. It had seemed to him to be legitimate to resort to surgical manipulations for the purpose of reducing the dislocation, and he would like to know if he had been wrong in that view.

DR. MCBURNEY thought that when dislocation occurred in a moderately young individual, and the parts had not been manipulated very much, and the history showed that the first injury was not followed by very much swelling or inflammatory action, it might properly be the subject of an attempt at reduction even at a considerable time after the occurrence of the original injury. But where other conditions were present and the case occurred in an old person, the results were not very satisfactory even when the dislocation was reduced, and it might be questionable whether the effort should be made; at least such cases were worthy of caution.

So far as statistics went, Dr. Stimson's collection did not pretend to include a number of other accidents,

such as fracture of the humerus, which occurred rather frequently.

Dr. Stimson said that he had not directed attention to other accidents, although he had known of three cases of fracture of the humerus as a result of efforts to reduce old dislocations occurring in one surgical service within six months.

Dr. Hall asked if it would not be a more scientific procedure to cut down and liberate the head of the bone.

Dr. Stimson remarked that this had been done with success.

EPITHELIOMA OF THE RECTUM.

Dr. A. C. Post presented a specimen of epithelioma of the rectum, which he removed that afternoon, at St. Luke's Hospital, from a man fifty-three years of age, of good general health and constitution, and who had been subjected to hemorrhages from the rectum during the last two years, with more or less pain, but the disease had not advanced so far as to cause symptoms of obstruction. When Dr. Post first saw the patient he found that there was a morbid growth within the rectum not connected with the sphincter, at least three or four centimetres from the sphincter, and he was able to pass his finger above the diseased part, and on drawing upon it, the mass seemed to move freely upon the surrounding parts. He determined to excise the tumor and make an effort to save the sphincter, which he succeeded in doing. He began by making an incision through the posterior part of the anus down to the coccyx, and laying open the posterior part of the rectum, and then making a lateral incision on each side, at a distance of two or three centimetres from the anus. The lateral incisions were extended backward and curved inward, so as to meet the median posterior incision. These lateral incisions throughout their whole extent were on the outer sides of the rectum, and not involving its coats. As he approached the wall of the rectum he made the dissection with a blunt instrument and with the fingers, using the knife and scissors as little as possible. He succeeded in reaching as high up as the upper extremity of the tumor, and then divided it into the lateral portions, opening it before and behind, and cutting through the walls of the rectum above and below it. It was somewhat difficult at certain points to make these incisions, but he succeeded finally, after a protracted dissection. There was only a moderate amount of hemorrhage, and no oozing of blood at the close of the operation. He applied a solution of chloride of zinc, two scruples to the ounce, to the surface, irrigated the wound with mercuric bichloride solution, 1 to 1000, drew the parts down, and connected the mucous membrane above the excised parts to the parts below, and made a continuous canal on all sides. He then dusted the parts with iodoform, introduced a tent of iodoform gauze into the rectum, applied iodoform gauze over the surface with absorbent cotton and a T-bandage.

The case was an unusually favorable one for operation, because of the fact that the sphincter was not involved and the disease was almost entirely confined to the mucous membrane and the parts immediately adjacent to it.

Dr. George A. Peters said that the case seemed to him to be a very favorable one for operation, and that Dr. Post was able to get good coaptation throughout the entire circumference of the bowel.

NEW YORK STATE MEDICAL ASSOCIATION.

Fifth District Branch.

Scientific Meeting held at Poughkeepsie, May 19, 1885.

(Specially reported for The Medical News.)

In the absence of the President, Dr. J. C. Hutchison, of Brooklyn, Dr. J. G. Porteous, of Poughkeepsie, was called to the Chair.

Dr. J. D. Bryant, of New York, reported

THREE CASES OF LIGATION OF THE EXTERNAL CAROTID: IN TWO, BOTH VESSELS WERE TIED SIMULTANEOUSLY.

Having given an early history of the operation and stated the objections which had been urged against it, some of which he said are still held valid, he proceeded to narrate his own cases. The operation in the first case was for the relief of a large and rapidly increasing aneurismal tumor resulting from a blow with a bottle in front of the left ear, and involving the trunk of the temporal artery and its terminal branches, together with the occipital. Dr. Bryant ligated the external carotid, under antiseptic precautions, in August, with the effect of reducing the tumor one-third. Ten days after the operation, however, there was noticed a slight returning pulsation. This afterwards increased, and the bruit also returned. Both the pulsation and bruit, it was found, could be checked by making pressure on the external carotid on the opposite side (the right). About seven months afterwards he operated on the tumor itself. Among the lessons which this case seemed to teach were, that the ligation of the external carotid in such cases is but a temporary expedient, and that the division and ligation of all the vessels leading to the growth, except just at the flap, are required. Six other similar cases had been reported, and in only two of them was a cure effected by ligation of the external carotid. The ligation of this artery, therefore, can only be regarded as a palliative measure and not curative, except in connection with other procedures. He did not think it justifiable to ligate the common carotid, since the rate of mortality is equal to the number of recoveries.

Dr. Bryant's other two cases of ligation of the external carotid, in both of which both vessels were tied simultaneously, were for the relief of malignant disease. In the first, excision had been repeatedly followed by rapid recurrence, and the knife was no longer available. Death occurred eleven days after the operation from hemorrhage of the facial artery at a point of sloughing, and he attributed the fatal result in the first place to an anomalous arrangement of the external carotid and its branches, which deceived him, and, secondly, to the carelessness of the attendant who did not discover the hemorrhage until the patient had lost so much blood that it was impossible to restore him, although transfusion with a saline solution was resorted to. This was the only case which had been reported in which death resulted from hemorrhage at the seat of disease.

In the second case the operation was also performed for the starvation of a malignant growth. At the present time, nearly four weeks afterwards, the disease, which at the time the two external carotids were ligated was progressing rapidly, is in a quiescent state. While he does not expect to cure malignant disease by this pro-

cedure, he believes that it is a rational and effective means of treating malignant and other growths which are fed by the branches of the external carotid. Exclusive of the two cases now presented, the operation has been reported in six cases, in four for the relief of malignant disease, in one for a vascular tumor of the face (in which no benefit was derived from it), and in one for a pulsating tumor at the back of the neck, with the same unsatisfactory result.

Dr. Bryant's general deductions were as follows:

1st. That ligation of the external carotid artery, with independent ligation of its branches arising from the first inch of its trunk, is a safe and commendable operation.

2d. That when the facial and lingual arteries do not arise singly or by a common trunk from the first inch of its course, the branches arising at the bifurcation should be tied.

3d. That a simultaneous ligation of the external carotids is a rational preparatory measure to operations involving the parts supplied by their branches when dangerous hemorrhage is feared.

4th. That simultaneous ligation is advisable to diminish the rapidity of the development of extensive malignant growths when nourished by the branches of the external carotid.

5th. That the ligation of one or both external carotids for the cure of aneurismal formation of the branches of the same is not warranted as an independent measure.

6th. That ligation of the common carotid should not be done for the cure or for the arrest of morbid conditions involving the external carotid with its branches, except as a final resort.

The paper was discussed by Drs. Wieber, of Brooklyn, and Hinton and Gouley, of New York, and the discussion brought to a close by Dr. Bryant.

Dr. S. J. Murray, of Brooklyn, read a paper on

DIPHTHERIA, AND ITS TREATMENT BY CALOMEL.

Having given a brief sketch of the history of the disease, he said, in regard to the epidemic, and occasionally endemic nature of diphtheria, the evidence was plain; but it was still an open question as to how far it possesses contagious and infectious properties. That it is transmitted directly by contact with the morbid products generated by the local disorder, he did not himself doubt. Its prevalence, and especially its virulence, is favored by defective drainage and contaminated air, and by the drinking of impure water. It is certain, however, that occasionally diphtheria appears in a sporadic form, and that isolated cases sometimes occur which can be attributed to no known cause whatever.

The large rate of mortality, sometimes running as high as fifty per cent., in this disease would seem to show that we have not adopted the best plan of treatment for it. The entrance of the diphtheritic poison, he believed, is effected in some way long before the disease is recognized by its local manifestations, and it destroys life, not by its local, but by its constitutional effects. In prescribing a drug intelligently, it is necessary to have some accurate knowledge of its effects on the system, and he therefore referred briefly to the action of calomel, which is the remedy which he employs in diphtheria. This drug, on entering the stomach, is supposed to escape unchanged into the intestines. It is then decomposed by the alkaline juices, and a portion of it immediately absorbed, passing into the bloodvessels. He was aware that it had already been employed to some extent in diphtheria, but it had been pretty generally condemned as a dangerous remedy. It was not the legitimate use, but the abuse of it, he believed, which had been followed by unpleasant after-effects. Dr. Wallon, in his able paper read before the Kings County Medical Society, in which he advocated the bichloride of mercury treatment, said that when the patient's bowels were constipated, he gave the mild chloride. We might infer from this, he said, that his success was in part due to the latter.

While others had used calomel for diphtheria, he knew of none who had used it in the same quantities that he had done. He did not adopt this plan of giving calomel in large doses until he had exhausted nearly or quite all of the remedies prescribed by various authors, and when he commenced with it he resolved that he would give it a thorough trial. The two following cases were the first in which he employed it: On Nov. 27, 1879, he was called to a house, where he found the whole surroundings in a most filthy condition. The parents had just returned from the funeral of one of their children who had died of diphtheria. On entering, he found a girl of ten and a boy of eight who were ill with the disease. The boy had been sick three or four days. His temperature was 103° and his pulse 115, and he was thin and anæmic. The pharynx was covered with a dirty, grayish membrane, foul-smelling, and strongly adherent. The girl's throat presented much the same appearance, while her temperature was 101° and the pulse 96. He immediately ordered the house to be disinfected, and gave the girl ten grains of calomel, and the boy eight; these doses to be repeated every four hours until he returned the following day. He also had the throat lightly swabbed with a mixture of carbolic acid and glycerine, and ordered stimulants and proper nourishment to be given at stated periods. When he called the next morning, the patients had each taken four doses of calomel, of ten and eight grains, respectively. The temperature of the girl had fallen one degree and she seemed a little better; but the condition of the boy, with the exception that the temperature had fallen half a degree, was not at all improved. The treatment was ordered to be continued. On his third visit the girl was doing very nicely, and a portion of the membrane was gone. She had taken ninety grains of calomel, and he now ordered the ten grain doses to be given only night and morning. The boy's temperature had fallen to 101°; but the appearance of the throat was about the same as before. The calomel was continued at the same intervals, but in five grain instead of eight grain doses, and in addition he ordered five grains of quinine every six hours, with an increase in his stimulants and amount of nourishment. On the following day the membrane was found to have entirely disappeared from the girl's throat, and the calomel was consequently discontinued. She was placed upon quinine in tonic doses, and made an excellent recovery. The boy's condition was also found to be more favorable; the pulse and temperature being nearly normal, and the membrane being partially detached around the edges. He had now taken about 100

grains of calomel, and it was discontinued, though the quinine stimulants and nourishment were maintained. He made a slow, but good, recovery. Having related a number of other cases with favorable results under the calomel treatment, Dr. Murray said, in conclusion, that he always gave the remedy dry, since when thus administered, more or less of it lodges upon and around the membrane, acting as a solvent and preventing its extension. He had never seen hemorrhage after the removal of the membrane, or the formation of a second membrane. Although the calomel acted as a sedative, it did not produce mercurialization or leave any unpleasant after-effects.

DR. ALFRED L. CARROLL, Secretary of the New York Board of Health, said that unquestionably the cases reported in the paper recovered after the administration of calomel; but in listening to it a doubt had arisen in his mind as to whether the calomel was, in reality, the efficient agent in their cure. In the first cases described the sanitary condition of the premises was very bad, and the first thing that the doctor did was to remedy this. Now, diphtheria is generally recognized as a filth disease, and it is a fact that a large number of cases recover without any medicinal treatment whatever, if they are placed under good hygienic surroundings. Again, with the calomel, stimulants, and nourishment were very freely given, and he had personally seen cases which recovered very rapidly under the use of stimulants and nourishment alone, without anything more, in the way of drugs than an occasional dose of quinine. Fresh air, stimulants, and plenty of food are very potent factors in the successful treatment of diphtheria; and when these are all made use of, it is not quite clear how far the calomel aids in securing the great results noted.

There are two things which he has especially noticed in regard to diphtheria. The first is, that the amount of exudation has no positive relation to the severity of the disease; and the second, that, in his own experience, at all events, the most rapidly fatal cases are those in which the temperature never rises above the normal, or if it does soon becomes reduced.

DR. GREENE, of Buffalo, who was a delegate from the Fourth District Branch of the Association, said that he had had a large experience in the treatment of diphtheria, and that he had become convinced that the chlorides are the most important agents for internal administration in it; though for himself he prefers others to either the bichloride or the mild chloride of mercury. He had, however, used the bichloride with good effect in combination with tincture of the chloride of iron. He believes alcohol is essential in diphtheria, considering it an excellent germicide, and said that he always commenced the treatment of every case with alcohol, unless the fever was very high. He also believed in plenty of quinine and a nourishing milk diet. During the last two or three years he had seen some very severe and malignant forms of the disease; but, except in the case of infants, he always felt assured that if the parents would carefully carry out his directions, there would be no doubt of recovery.

As a local application, he preferred to all others a saturated solution of persulphate of iron (a drachm to about four or five ounces of water). He believed there is nothing like it, and said he had saved five cases out of eight of membranous croup in which he had used it. He employed it by means of an atomizer which gave a continuous spray, and during its application he had seen some patients throw out whole casts of the upper part of the trachea. There was one case of special interest which he would relate: He was called late at night to see a young child who was cyanotic and choking to death. He at once gave it as much brandy as he could get down it, and commenced the use of the persulphate spray. Presently a violent paroxysm of coughing was induced and it threw up a large mass of membrane, with immediate relief.

DR. E. R. SQUIBB said that Dr. Greene, was mistaken in supposing that his solution of the subsulphate of iron is a saturated one. The Monsell solution contains a far larger proportion of the salt than his so-called solution, but the latter is a safer one to use, and more efficient for the purpose required than a stronger solution. He approved of Dr. Murray's method of giving calomel dry, as this had long been urged as the best way to administer it, and as an albuminate of mercury is thus formed, which is soluble by the fluids of the mouth, it has been proposed to use an albuminate of the drug which was made artificially outside the body.

DR. R. C. VAN WYCK, of Dutchess County, read a paper on the

TREATMENT OF CEREBRAL HEMORRHAGE AND EMBOLISM BY THE INTERNAL USE OF CARBONATE OF AMMONIA.

Having related in minute detail two cases occurring in his practice, he stated that the advantages which he claimed for the treatment were the following:

1. As a diffusible stimulant to the general circulation, relieving the anæmia which is present in the brain, increasing the cutaneous circulation, and inducing perspiration—relieving in this way intracranial pressure.

2. By its direct action in dissolving the clots. The only agents which possess this property are the alkalies, and the most efficient of these is ammonia.

3. In the œdema and congestion of the lungs so often seen in apoplexy, the used of this salt will frequently relieve the condition, partly by its stimulating action on the terminal capillaries, and also by its expectorant action on the bronchial mucous membrane.

4. By keeping up the alkalinity of the blood, and preventing further thrombosis.

Remarking that he did not claim for this drug a specific action, but only that it acted as an efficient auxiliary to the use of other measures, he said that in the treatment of cerebral hemorrhage the following would seem to be the proper order of procedure:

1. To endeavor to control prodromal symptoms, which threaten an attack of apoplexy, by prompt venesection and catharsis.

2. To relieve the period of reaction after paralysis has taken place by arterial sedatives, preferably aconite.

3. To remove the exudation, relieve cerebral anæmia and pulmonary congestion, and prevent further thrombosis by the free use of carbonate of ammonia.

4. To support the system by nourishing, yet unstimulating diet, and by the use of remedies which specially

nourish the brain tissue, such as lactophosphate of lime, cod-liver oil, and the phosphate of zinc.

5. To increase the muscular development by massage, friction, electricity, and strychnia.

The carbonate of ammonia should never be given in cerebral hemorrhage, he said, until the period of reaction has fully set in—say, from ten days to two weeks. It should then be given continuously for at least a month, or until the retrograde changes in the clot are accomplished. In thrombosis and embolism, if the diagnosis can be clearly made, it should be given at once. The dose employed by him is five grains three or four times a day, and it is given in half an ounce of liquor ammoniæ acetatis. He said there is one class of cases in which the carbonate of ammonia had not acted well in his hands, viz., cases of cerebral hemorrhage associated with interstitial nephritis and hepatitis. Here he had had good results from the use of sodium phosphate, in doses of from twenty to thirty grains, given in the infusion of dandelion, three times a day after meals, and of bichloride of mercury in doses of one-twenty-fourth of a grain, given (sometimes combined in a pill with digitalis and squill) before meals. In conclusion, Dr. Van Wyck read a letter which he had received from Prof. Roberts Bartholow, in regard to the utility of the carbonate of ammonia plan of treatment. There is one class of cases, Dr. Bartholow wrote, in which he had seen most admirable results, viz., the cases of thrombosis of cerebral vessels due to chronic arteritis. Embolism of the brain, secondary to lesions of the cardiac valves, is another condition in which the same treatment is very effective.

Dr. J. G. Porteous read a paper on

HYPERTROPHY OF THE PROSTATE GLAND.

He briefly mentioned the symptoms, and said that the diagnosis is not difficult. From thirty to fifty per cent. of men over fifty years of age are troubled with this condition, and the suffering caused by it is often extreme. The administration of drugs has no effect in reducing the size of the enlarged prostate. Personally, he had had but little experience, except with the senile variety of the trouble, which is by far the most common. The best treatment, he believed, is the early use of the soft catheter; the instrument to be passed every three or four days. By this means it is possible to avert or greatly postpone the distressing symptoms of the condition; but if a case is left too long without treatment, there will almost inevitably be great difficulty in its management. There is one important lesson that he had learned in connection with this affection, and that is, that it is extremely dangerous to empty the bladder completely. Formerly he had done this, but the results had more than once been so disastrous that now he is content to adopt the plan of gradual evacuation. When this is practised, there is seldom any blood, and the quantity of pus is much less; while the patient lives longer and gets along with less suffering. In conclusion, he would, therefore, say, empty the bladder in these cases with great caution, and always use a soft catheter. When there is very great irritation present, it is advisable to resort to the aspirator until this has been sufficiently allayed to permit of the use of the catheter. While this is not necessary in ordinary cases, he believes that the aspirator will in the future be more often used in connection with hypertrophied prostate than it is at present.

Dr. J. W. S. Gouley, of New York, said he was much gratified to hear of the wise course which Dr. Porteous had adopted in cases of retention of urine from enlarged prostate. The idea of gradual evacuation of the bladder in these cases had been first suggested by Sir Benjamin Brodie, and Dr. Porteous by careful clinical observation had arrived at the same conclusions as that great master. Young practitioners are always anxious to see the last drop of urine, and he said he could relate a dozen cases in which death had resulted from the complete emptying of the bladder. Caution in this regard was the principal practical point that was impressed by the paper just read.

Another point to which he should like to call attention was the existence of incontinence of urine in connection with enlarged prostate. Hypertrophy of the prostate is not a single entity, but consists of a number of entities. At the present day we can determine what form of hypertrophy is present, and this knowledge guides us in the selection of the proper instrument to be used. He said he agreed with Dr. Porteous that, as a rule, the vulcanized India-rubber catheters are the safest, particularly for patients to pass themselves; but cases are met with from time to time in which it is not possible to enter the bladder with them, viz., those with intraurethral hypertrophy, with a zigzag course of the urethra, and, perhaps, a bar at the neck of the bladder. Then the metallic flexible elbow catheter of Mercier is required. When there is a false route, Mercier's invaginated catheter is invaluable. With this instrument Dr. Gouley said he had never failed to get into the bladder, and since he had been in possession of it he had thrown the aspirator entirely aside. Every man who has enlarged prostate, he went on to say, does not have retention. On the other hand, the patient may have incontinency, which is not to be confounded with the dripping of an overflowing bladder. In conclusion, he spoke of the importance of the surgeon's being on his guard against the possible stoppage of the catheter by a blood-clot filling up its lumen, so that no urine could pass through it.

Dr. Robert Newman, of New York, having, in the course of some remarks on the paper, recommended the use of cocaine in cases where the parts are so sensitive that instruments cannot be tolerated, Dr. Gouley expressed the opinion that this is bad practice. It is highly desirable, he thought, that we should have the sensations of the patient to guide us—otherwise there is a liability of making a false passage—and the skilful catheterist, having made a careful diagnosis and selected the proper instruments, will not be at all likely to give pain.

Dr. C. S. Wood, of New York, read a paper entitled

REPORT OF A CASE OF SO-CALLED METASTASIS OF ACUTE RHEUMATISM FROM THE SHOULDER AND ARM TO THE MENINGES OF THE BRAIN, RESULTING FATALLY.

The patient was thirty-eight years of age, and inherited a strong rheumatic tendency. The rheumatic attack referred to was treated first with salicylate of soda, and afterwards with alkalies in full doses, morphia being also used as occasion required. Eight days from the commencement of the illness the metastasis

took place, and the fatal result rapidly ensued, the temperature rising to 106° just before death. No autopsy could be obtained. During his professional career, Dr. Wood had met with a number of such cases, though the most of them occurred while he was serving as a surgeon in the army. In conclusion, he quoted the opinion of various standard authorities upon this subject.

NEW YORK ACADEMY OF MEDICINE.

Stated Meeting, June 4, 1885.

THE PRESIDENT, A. JACOBI, M.D., IN THE CHAIR.

DR. RICHARD H. DERBY read a report on

CONTAGIOUS OPHTHALMIA IN SOME OF THE ORPHAN ASYLUMS AND RESIDENTIAL SCHOOLS OF NEW YORK CITY.

A child in these institutions, he said, is far more liable to lose its sight from contagious ophthalmia than to lose its life from scarlet fever or other infectious diseases, over which such careful surveillance is kept by the Board of Health. Having stated that he had made an examination of 7440 children in 24 orphan asylums and residential schools, he gave a brief description of the disease referred to in his report, as blenorrhœal conjunctivitis, and its complications. He then said that it often exists among the children in these institutions without any medicinal treatment whatever; or if these affections are treated, it is merely as a simple catarrh.

The disease is most frequently communicated by means of towels, and by the water in which children wash together. Fourteen years' experience as an officer in one of the largest ophthalmic hospitals in this country, has convinced Dr. Derby of the great prevalence of the trouble; and his inquiries have demonstrated the fact that the ophthalmia is almost invariably contracted in the institutions spoken of, the eyes of children, as a rule, being perfectly healthy when they are committed to them.

In the asylum which he first visited, out of 326 boys, he found 96 suffering from contagious ophthalmia; and out of 331 girls, 65; a total percentage of 24.5. Separate towels were used for each child, and the general sanitary condition of the institution was good. In this respect there was a great improvement over the state of affairs which he had found on the occasion of a former visit, in company with the late Mr. Theodore Roosevelt, and it was in consequence of suggestions then made to the managers that the system of separate towels and other reforms had been adopted.

In the second institution visited, out of 1586 children, there were 488 cases, or a percentage of 30.7. In the third, there were 782 children, and 111 cases, or 14.2 per cent. In the fourth, 188 children, and 93 cases, or 49.4 per cent. In the fifth, 740 children, and 71 cases, or 9.5 per cent. In the sixth, 96 children, and 26 cases, or nearly 37 per cent. In the seventh, 282 children, and 15 cases, or 5.7 per cent. In the eighth, 455 children, and 74 cases, or 16.2 per cent. In the ninth, 155 children, and 5 cases, or 3.2 per cent. In the tenth, 240 children, and 15 cases, or 6 per cent. In the eleventh, 21 children, and no cases. In the twelfth, 451 children, and 204 cases, or 45 per cent. In this institution there was great overcrowding, and the general condition of the inmates was bad; no attempt was made at isolation. In the thirteenth, the percentage of cases was 5.7. In the fourteenth, the percentage was 17.3. In the fifteenth, there were 151 children, and only one case of contagious ophthalmia. This was an institution in which the cottage plan was adopted. In the sixteenth, on the same plan, there were 122 children, with one case. In the seventeenth there were 399 children, and 7 cases, or 1.9 per cent. In the eighteenth there were 245 children, and 40 cases, or 16 per cent. In the nineteenth there were 98 children, with 2 per cent. of cases. In the twentieth there were 124 children, and 6 cases, or 4.8 per cent. In the twenty-first there were 132 children, and 21 cases, or 15.9 per cent. In the twenty-second there were 18 children, and no cases of the disease. In the twenty-third there were 19 children, and no cases; and in the twenty-fourth, 82 children, and 8 cases, or 10 per cent.

It was not the purpose of the paper, Dr. Derby continued, to discuss the causes of contagious ophthalmia, such as imperfect quarantine, bad hygienic conditions, etc. This object would be gained if he could succeed in drawing renewed attention to the fact that in the orphan asylums and other similar institutions of the city the disease exists to an alarming extent, while attracting but little attention from the attendants. The statistics obtained from his investigations showed that among 7440 children, 1428, or 19.19 per cent., were suffering from communicable eye disease.

When the disease prevails to an unusual extent in any of these institutions, it is the common practice to move the worst cases to their homes, which is in every respect objectionable. The children are apt to be neglected, or if they are taken to an eye infirmary three times a week, as would be demanded in such cases, it imposes an enormous burden upon the already overtaxed parent; to say nothing of the fact that the affected children constitute fresh centres of contagion. Too often the want of proper care results in irreparable damage to the eyes. One great source of the trouble is the overcrowding of children in asylums, since the most of these institutions received additional pecuniary support for each child committed to them.

Dr. Derby, in conclusion, made a number of suggestions, among which were the following:

That all institutions for the case of children should be compelled by law to comply with certain specified requirements for the prevention of the spread of eye disease among their inmates.

That each asylum should be required to present at certain stated intervals a report of the cases of contagious ophthalmia among its inmates.

That complete separation of all affected children from the others should be insisted on.

That adequate treatment, not merely local, but hygienic and general, should be enforced in every case.

That the same precautions should be taken in regard to the spread of the disease as are now employed in the case of scarlet fever and other contagious diseases.

That prompt and systematic action for relief from this pressing evil is required, and that a special hospital is needed for the successful treatment of the disease.

It is time, he thought, that the Academy of Medicine should protest against the present inhuman state of affairs in these institutions for children.

DR. H. KNAPP said that he would in no way underrate the statements of the author of the paper. The institutions referred to, he believed, are at times the direct foci by means of which contagious ophthalmia is spread, and sometimes the outbreaks of the disease are so serious that the authorities controlling them are obliged to close the institutions temporarily and farm the children out. It is too often the case, however, that the children thus sent out are the means of spreading the disease through the community. Some of these institutions take the most active measures to stamp out the disease; but the truth is, that when they once become invaded, a certain number of cases are almost sure to remain all the time. Consequently, he doubted whether the disease is altogether preventable.

He felt sure, however, that those in charge of some of the institutions did what they could to keep it under control. Two of them, one a Roman Catholic institution, and the other a Hebrew orphan asylum, invariably sent candidates for admission to him (Dr. Knapp) to examine the condition of the child's eyes before it was permitted to enter. Very recently he had made an examination of the eyes of all the children in the second of these institutions, which is situated in a most healthful location at One Hundred and Thirty-eighth Street, and in which the children are cared for very much in the way that they would be in private families. The result showed that out of 400 inmates, he found only two with sore eyes, and neither of these was affected with contagious ophthalmia. He thought that Dr. Derby's suggestion, that a certain supervision over the eyes of the children in all these institutions should be maintained, an excellent one; and if from time to time rigid inspections are made by competent physicians, and the reports of the results of the same transmitted to the proper authorities, he believed that large epidemics, at least of contagious ophthalmia, would be avoided. He knew of nothing that would be more philanthropic than the maintenance of such a supervision.

DR. D. B. ST. JOHN ROOSA said that by a curious coincidence, only this afternoon he had been called upon, at the request of the attending physician, to examine the eyes of 242 children in a certain institution. Out of these he found 67 who were affected with conjunctivitis; but it was for the most part of a very mild type. It was probably follicular in character, and he considered it perfectly curable under appropriate treatment and with as good care as could be had without isolation. Two years ago he had seen an outbreak which was much more dangerous in a school which was greatly overcrowded, and in which the treatment adopted had not been very intelligent. He did not consider the authorities of these institutions altogether to blame for the existing state of affairs, but thought that the Board of Health was responsible to a large extent. The institutions are often forced to take children when they did not want them.

In 1834 contagious ophthalmia prevailed among the Belgian army, and when the soldiers were let loose, they carried the disease all over Belgium. In this city the public interest that had been excited in this matter of eye disease in the institutions for children had, he believed, already borne considerable fruit. One interesting fact had struck him in the examination which he had made, and that was, that some of the most delicate and badly nourished children had the best eyes; being entirely free from all trace of the conjunctivitis. For his part, he believed the disease is purely local, and has no special connection with struma.

The remedy is at hand, and to be obtained with perfect ease. The taxpayers of the city should be made to pay for the establishment and support of such a special hospital as Dr. Derby had suggested. The cost to the State of a man with poor eyes, or altogether blind, is a very serious matter, and the reduction of the pauper class is certainly important enough to engage the attention of the political philanthropist. The Board of Health, he thought, should at once take measures for the establishment of such a hospital.

DR. OLTMAN, of Nyack, spoke of his experience in connection with an institution for the care of children committed by the courts. Over one hundred had been admitted during the past winter, and with the exception of two, who were affected with trachoma, all had healthy eyes when they entered. In the winter, however, mild catarrhal disease developed, and went on until the spring. Forty-four children had catarrhal disease, which was probably contagious, seven had acute granular disease, and one had purulent ophthalmia.

DR. C. R. AGNEW said that his interest in this subject began nearly thirty years ago in Ireland, where, in connection with the famine, the disease developed in the poorhouses and other public institutions. At that time he saw an immense number of lids there, and from this stock, he said, the United States had been receiving fresh importations ever since. He had hoped that in the State of New York he would never be called upon to observe such scenes as he had unfortunately witnessed in some of our institutions. In regard to one of these institutions he made a report three years ago, which was afterwards embodied in the annual report of the State Board of Health, and it illustrated very well the manner in which an outbreak of contagious ophthalmia augments and gets headway.

Dr. Agnew then gave an account of an effort to develop an orphan asylum in a neighboring county, when the available funds were totally inadequate for the purpose. In a building which was entirely unfit for this use nearly three hundred children were packed, a much larger number than it could properly accommodate. The hygienic conditions were thus very poor, and contagious ophthalmia soon broke out. The children all washed in a trough sixteen feet long, and by this means the disease was communicated to eight-tenths of those who came in from outside. What made the disease all the worse was the fact that in the infirmary the children had to sleep two or three in a bed. There was a gentleman present at the Academy to-night who had taken charge of the children at that time, and who had brought about a complete revolution. He turned all the children out of doors into two large circus tents, and instead of keeping them upon ten or fifteen quarts of milk a day, as had previously been done, he allowed them to have four hundred quarts. The change produced was indeed marvellous. This was a fair type of a considerable number of institutions which are all the time taking in children for whom they are altogether unable to provide; and he thought, therefore, that there should be much more and better inspection than is now ordinarily seen. It

is not every general practitioner whose opinion as to the condition of eyes can be safely trusted.

He did not like the idea of entrusting such a matter to the State; but there is a limit to individualism and the power of voluntary efforts. It seemed evident to him, therefore, that there is need of some legislation. He believed in agitation of a subject, and it is his opinion that by judicious efforts on the part of those specially interested in the matter, the public mind can soon be brought to realize the necessity for the adoption of active measures for repressing the existing evil. A few years ago the vile condition of the vessels bringing immigrants to our shores was such that ship fever was of the most constant occurrence, the passengers being subjected to as much overcrowding and bad treatment generally as the negroes in the slave ships. This state of affairs continued until public opinion became roused to a sufficient extent to cause the adoption and enforcement of those wise and beneficial rules which now invariably regulate the carrying of steerage passengers. He thought that before an institution for the care of children should be allowed to exist, it should place on file a certificate to the effect that it had ample provision for the accommodation of a certain definite number of inmates, with specified statements of its capacity and arrangements, and that it should be prohibited by law from being permitted ever to receive any more children than the number designated in such certificate. The State Board of Charities, he believed, ought to take some action in regard to this important matter. The managers of these institutions are almost without exception disposed to do what is right. They are perfectly willing to act for the best interests of the children under their charge, but are ignorant of the proper methods to pursue. It is certainly horrifying to think of making six or seven hundred paupers in the residential schools of this city, and it is high time that something should be done to prevent the continuance of the present state of affairs. It is his opinion that the vast majority of children who contract chronic conjunctivitis in these institutions never recover from it, and in after-life they constitute an immense body of drifting and despairing sufferers, in many instances endlessly wandering about from one dispensary to another. A few years ago it used to be the boast of Fourth of July orators that there were no indigenous paupers in this country; but all this is changed, and there is unquestionally a large amount of indigenous pauperism here now.

THE PRESIDENT thought that this disease could never be eradicated as long as an institution in which an outbreak of it occurred remained in the same spot and the children remained in it. All these institutions are, no doubt, designed and expected to do good, but in reality they accomplish much harm. Outbreaks of ophthalmia are liable to occur, notwithstanding all the means adopted to prevent them, just as scarlet fever or measles is liable to break out among the children in them; and these diseases are often of a very malignant turn under the circumstances. Measles, as it generally appears in the community, is a mild disease; but in public institutions it is often very fatal. He believed it would be very much better if children were left in the tenement houses than entrusted to the care of institutions. These institutions are always overcrowded, and whenever a disease like measles or whooping-cough breaks out among the inmates the results are apt to be very serious. Whooping-cough, like measles, is not, under ordinary circumstances, a very grave affection, but among children thus crowded together it often proves fatal; and when this is not the case is likely to be followed by disastrous consequences. Very frequently phthisis, for instance, is the result of whooping-cough or measles contracted in early life in these institutions.

If, therefore, the object contemplated by some of the speakers was simply to add another to our already numerous hospitals, he did not think much good would be accomplished by the present agitation. In such an institution for the treatment of contagious eye diseases he could not doubt that many cases which are mild when admitted would assume a severe type, and that the danger would be increased, instead of diminished, by placing children in it. The question must come up here, as it had already done all over Europe, whether these institutions for children ought to be multiplied at all; and for his part he felt convinced that it would be a benefit to the community if these public institutions were done away with altogether. If the same money now expended for the erection and maintenance of splendid buildings, and the same care now bestowed upon their management, were given to the farming out of the children, he believed that we would be much better off. There would be more children alive, and fewer blind ones than we have at present.

DR. N. T. MITTENDORF said that there are two points which the public do not understand. The first one is, the very contagious nature of the disease in question, and the second, the fact that when it once makes its appearance in an institution it cannot be eradicated. He agreed with the President as to the evils associated with public institutions. In the country branches of the Nursery and Child's Hospital, and of the New York Infant Asylum, the plan had been adopted of placing a few children in separate cottages, and the results had been much better than when a large number of them were crowded together. The best plan at present seems, therefore, to have a number of small buildings and to place as few children as possible in each one. When contagious ophthalmia breaks out in an institution he thought that the patients should be kept in it, but strictly isolated. It is inadvisable to send them to a general eye hospital, for the reason that the disease is likely to spread to other patients, and in an institution where delicate operations are constantly being performed this would be followed by the most serious consequences.

DR. AGNEW then presented

RESOLUTIONS

to the effect that it is necessary and expedient that steps should be taken to prevent the occurrence of contagious eye disease in the schools and asylums of this city, and that the Council of the New York Academy of Medicine should be requested to unite with the author of the paper, the State Board of Charities, the Board of Health, and the Society for the Prevention of Cruelty to Children, in adopting such action as would be most likely to secure this result.

DR. ROOSA seconded the resolutions, and in doing so

said he could take the opportunity of saying a word further in regard to the hospital plan, in favor of which he had spoken. It is necessary to take things as they are, and not as they might be under a Utopian order of affairs. In his opinion, the disease could be successfully stamped out, and his idea would be, not to make the proposed hospital a permanent institution, but simply to resort to it as a temporary expedient.

Dr. R. P. Lincoln then exhibited

A NEW ELASTIC LARYNGOSCOPE AND OTOSCOPE,

together with an electric mouth lamp, lantern, and illuminator for the urethra and other cavities, invented by E. T. Starr, of Philadelphia, and also a convenient primary and storage battery.

CORRESPONDENCE.

A VISIT TO PROF. PASTEUR'S LABORATORY.

My visit to Pasteur's laboratory was made on the morning of May 12th, and the same evening I took the express train for Rome, to be in time for the International Sanitary Conference, which, according to the invitation first issued by the Italian Government, was to be on the 15th, but which was subsequently postponed to the 20th.

At the request of Dr. Koch, the delegate from Germany, I was invited last evening to meet the delegates from Germany at the house of Dr. Moleschott, one of the delegates from Italy, for an informal talk with reference to the questions which are to be submitted for the consideration of the Sanitary Conference. Dr. Koch expressed his views very freely, and it is evident that he has very positive convictions with reference to his "comma-bacillus" and to the proper measures to be taken to restrict the spread of cholera. It would be premature, however, to state these views at the present time.

While in Paris, armed with a letter of introduction from Miguel to Dr. Roux, one of Pasteur's most able assistants, I made my way to the laboratory, which is quite near the Pantheon—45 *Rue d' Ulm*.

Dr. Roux hastened to introduce me to Pasteur, who kindly conducted me through the laboratory and the adjacent buildings in which the experimental and *commercial* work connected with, or resulting from, his biological investigations is conducted. Dr. Roux, himself, seemed to be chiefly occupied in the microscopical part of the work, and in cultivating various pathogenic bacteria. He is entirely familiar with Koch's method of cultivation upon a solid medium, and showed me pure cultures of the microbe of *rouget*, or swine plague, upon the surface of agar-agar gelatine. While appreciating the value of this method, it is not considered by Pasteur and his assistants as a substitute for the older method of cultivation in fluid media, which has so long been practised in this laboratory, but simply as an additional resource, which is especially useful for certain purposes.

I had brought with me from home a pure culture of the micrococcus which Dr. Salmon has described as the cause of swine-plague as it exists in the United States, and was curious to know whether it was identical with the microbe which Pasteur has under cultivation, and which he has proved to be constantly present in the blood of swine attacked with that form of disease known in France as *rouget*, and to reproduce the disease when inoculated, in pure cultures, into healthy animals. This disease has been supposed to be identical with "swine-plague" or "hog-cholera" as it exists in the United States, and if so, it must be admitted that two different organisms can give rise to the same symptoms, or that one of the investigators named has failed to obtain the veritable germ of this disease, for Pasteur's microbe does not correspond at all with that of Salmon, which is a micrococcus, while Pasteur's is, in fact, an extremely minute bacillus. It will be remembered that Klein, in an elaborate memoir, published some years since, described quite a different organism from either of these, viz., a large bacillus with spores.

The minute bacillus which Pasteur finds to be the cause of *rouget* resembles, as stated to me last evening in conversation, by Dr. Koch himself, the minutest bacillus which produces that form of septicæmia in the mouse, which the German investigator named has so well studed. Dr. Koch admits that this bacilli is the veritable cause of the form of swine-plague which Pasteur has studied, but says that he is familiar with at least two different organisms which bear an etiological relation to other forms of swine-plague which prevail in certain parts of Germany. It seems probable, therefore, that the disease studied by Pasteur is absolutely identical with that which Salmon has had under observation for several years and which he finds to be due to a micrococcus. I have myself obtained a pure culture of the micrococcus described by Salmon, from the blood of a pig suffering from "hog cholera," which was killed for the purpose, and collected with precautions which made it certain that the micrococcus which multiplied abundantly in my culture-fluids came from the blood of the animal, and not from any accidental source.

Pasteur has not only demonstrated the etiological relation of his microbe to the disease *rouget*, but has succeeded in producing an attenuated virus which is now offered by sale by an agent whose place of business is in the immediate vicinity, and who obtains his stock in trade from the laboratory of the famous chemist. The assortment of "attenuated virus" now offered for sale at this establishment is limited to three diseases, anthrax, fowl cholera, and swine-plague (*rouget*).

The price of the anthrax vaccine, sent free in tubes, stated in a circular handed to me by the agent, is as follows:

Tube for 25 oxen or 50 sheep, first vaccine, 2½ francs; second vaccine, 2½ francs; total 5 francs, or $1.

The demand for this vaccine is constantly increasing, and, according to Pasteur, the mortality from anthrax in centre sections has been reduced from ten to twenty per cent. to less than one per thousand. The number of sheep vaccinated during the year 1884, in France alone, was 316,553; the number of cattle 33,906. During the month of April of the present year the orders received have been for a quantity sufficient to vaccinate 108,448 sheep. In that part of the laboratory devoted to the manufacture of vaccine I found two boys engaged in filling little tubes with the *premièr vaccin* and the *deuxième vaccin of charbon*, and in the warm chamber adjoining were numerous flasks containing cultures of the "attenuated" anthrax bacillus, which in due time would be distributed among the farmers of France and

other portions of Europe in which protective inoculations are how being practised.

Pasteur is still engaged in his studies relating to hydrophobia. His experimental inoculations are made upon the extended scale so desirable in researches of this nature, and which the liberal policy of the French government enables him to follow. His arrangements for keeping animals for experimental purposes are admirable, and he showed me with pride the well-made iron cases for dogs, the patches for rabbits, and the yards for fowls, all kept in perfect order and well stocked with animals. Having succeeded in transmitting hydrophobia by inoculations upon the surface of the brain by trephining with virus from the nervous centres of an animal recently dead of the disease, and in obtaining an attenuated virus which produces a non-fatal form of the disease, by which the animal is protected from subsequent attacks, Pasteur's next object is to ascertain whether protective inoculation may be successfully practised after an animal has been bitten by a rabid dog. His experiments lead him to believe that this is practicable, and the test is being made at the present time. The curious thing about these experiments relating to hydrophobia is, that while the nervous tissue has been proved to contain the virus, which by inoculation gives rise to the disease, the exact nature of this virus has not been determined. No microbe has yet been discovered in the virulent material by means of the microscope, and all attempts to obtain cultures of the germ, which Pasteur assumes must be present in this material, have thus far failed. In reply to a question, Pasteur informed me that microscopically he had not been able to recognize any difference between healthy brain substance, for example, and that which, coming from an animal recently dead of hydrophobia, is capable of reproducing the disease.

It will be remembered that some time since an item passed the rounds of the newspapers and medical journals, to the effect that Pasteur was about to visit Brazil for the purpose of investigating yellow fever, and especially of verifying the reliability of the claims of Dr. Domingo Freire to have discovered the germ of this disease and a method of practising protective inoculations against it. I inquired whether there was any truth in this report, and was informed by M. Pasteur that he had not entertained the idea of undertaking such an investigation, although invited by the Emperor of Brazil to do so. He has very little confidence in the alleged discoveries of Dr. Freire, and stated that the Emperor of Brazil, himself, was very incredulous as to their scientific value. I may say that in a letter from Dr. Koch, which I received two or three months since, a similar want of confidence was expressed. My own views with reference to Dr. Freire's methods and reputed discoveries are in conformity with those of the high authorities above named, and have been on record for more than a year.

Pasteur is a vigorous and well-preserved man, notwithstanding his sixty years (?) and the attack of hemiplegia from which he suffered eighteen months since. There is still some paralysis of the muscles of the left leg, and he is obliged to go up and down stairs with caution, but did not show any indications of fatigue from the extended trip which we made together through the laboratory, and the yards in which his animals are kept, which are two or three squares distant from it.

Rome, May 20, 1885. G. M. S.

NEWS ITEMS.

The American Medical Association and the International Congress.—The London *Lancet* (May 30, 1885), in commenting on the recent action of the Association in reference to the organization of the Washington Session of the International Medical Congress, says: At its meeting, in 1884, the American Medical Association appointed a committee of seven gentlemen to present an invitation to the International Medical Congress at Copenhagen to hold its next meeting in Washington in 1887. As our readers are aware, this invitation was accepted; and the committee, desiring to advance all the arrangements for the meeting, and, believing itself to be empowered to do so, proceeded to nominate the chief officers and to conduct the preliminary negotiations. Unfortunately, it seems that in so doing they have excited certain local jealousies; and at the late meeting of the Association in New Orleans their action was discussed and condemned, and a resolution was passed electing a committee, consisting of the seven gentlemen previously appointed and thirty-eight others, "one from each State and territory," who should "proceed at once to review, alter, and amend the action of the present committee as it may deem best." From the reports of the discussion we gather that some members of the Association consider that the appointments to the Congress should be filled up on a geographical basis, each State being considered as a distinct entity to be represented. We trust, however, that the new committee will take a wider and more enlightened view than that, and will make the appointments solely in reference to the merits of the various nominees, and the degree to which they possess the confidence of the profession in the United States, as a whole, and in Europe. We may be permitted to assure our American brethren that visitors from Europe will in a large measure judge of the position and character of the profession in the States by the scientific eminence of those whom they choose as their prominent representatives. We trust that all difficulties such as we have hinted at will be wisely and amicably surmounted, and that the meeting of the Congress in Washington will be as signal in its success as a scientific gathering, and in its display of true cosmopolitan brotherliness, as any previous one.

Inoculation for Cholera.—The following is an abstract of a report made by a committee of the Madrid Academy of Medicine, consisting of Señor Carreras and four others, to the Academia de Medecina y Cirugía, of Barcelona, on this subject.

The report commences with a brief account of Dr. Ferrán's original memoir, in which he states his agreement with Koch's conclusions, and his belief in identity of the microörganism with which he worked and Koch's comma-bacillus. The investigation was conducted with the aid of Dr. Ferrán in the performance of the experiments, or of many of them, and with his full recognition.

The work of the Committee was arranged under the following heads:

1. The investigation of the *morphology* of the micro-organism, the manner of its cultivation, and the changes effected in it by various reagents.

2. The *pathogenic action* of the cultivated organism, especially before attenuation.

3. The *preventive action* of the cultivated organism when ejected after attenuation, both in quantity and quality.

1. *Morphology.*—A full account is given of the precautions taken to secure purity of the apparatus, of the air of the laboratory, etc., and then the mode of preparation of the tubes of sterilized gelatine, and of the flasks of sterilized broth, ready for the cultivation of the microbes, is described. These media were inoculated with (1) the microbe of Van Ermengen, procured from Brussels; (2) the microbe of Ferrán; and (3) the microbe of Finckler and Prior, as obtained from cases of sporadic (non-Asiatic) cholera. The results, summarized, are to the following effect: 1. The micro-organism of Finckler and Prior found in sporadic cholera is distinct from the comma-bacillus of Koch. 2. The organisms described by Koch, by Van Ermengen, and by Ferrán, are the same, and are found in Asiatic cholera. 3. The comma-bacillus (of Koch) represents only one stage of this organism. 4. It has been shown by Ferrán, and confirmed by the Committee, that this organism passes through the following stages: *a*, a spiral filament; *b*, production of spores in fins; *c*, separation of the spores; *d*, growth of the free spores; *e*, change of the spores into a mulberry-shaped mass (*cuerpo muriforme*); *f*, which becomes diffluent protoplasm; *g*, from which, by condensation, a very fine filament is again formed. 5. Bodies, other than this microörganism in its various stages, are also found in the cultivation-fluids. It having been stated by Ferrán that alkaloids which had a toxic action upon animal life generally, had no such action upon the microbe, the effect of the addition to the cultivation of several of these was tried, such as aconitine, morphine, codeine, camphor, digitaline, ergotine, eserine, strychnine, and several others. The result was to confirm the statement as to their inaction, save in the case of eserine, which appeared to favor the development of the spores. The Committee, however, do not enter into any explanation, or speculate further upon this exception. Following the example of Ferrán, in his memoir, the committee do not discuss the question of the classification of the microbe.

2. *Pathogenic Action.*—A. *Experiments on Animals.* These were exclusively performed upon guinea-pigs, by means of hypodermic injection. Von Ermengen's and Ferrán's cultivations were used indifferently, the results being the same in each case. As a preliminary precaution, some of the cultivation-fluid was sterilized by heat, filtered, and injected into a guinea-pig. There was no injury to health, nor were any new organisms found in the blood. The same and similar cultivations, unsterilized, were then injected in various doses (from one to eight cubic centimetres). The severity of the symptoms produced varied directly with the dose. These symptoms were, briefly, at first, discomfort and restlessness, with refusal of food; then rapidly increasing prostration, followed by seemingly painful convulsions, spasms similar to the actions of vomiting, marked cyanosis, terminating generally in death within a period of from six to thirty-six hours, the time varying with the dose. On post-mortem examination, the principal changes were found in the blood, and in the lymph exuding from the neighborhood of the hypodermic injection. The corpuscles were disintegrated or reduced in size, and numerous micrococci, spirilla, and commas were present. In no case was any indication present of septicæmia or pyæmia, nor of the presence of the *coccidia oviformis*. Injection of a very small quantity of the cultivation-fluid into the duodenum, as has been performed by Nicati and Rietsch, of Marseilles, and also by Von Ermengen, was tried with negative results; but, in these experiments, the animals had not been starved. B. *Experiments on Man.* The same cultivation-fluids were similarly injected hypodermically into eleven human beings (one of the first being a member of the Investigating Committee), for the purpose of studying the pathological results. These are described at length, but the chief points are these: Within a few hours, the site of injection (the back of the arm) became hot and swollen to a limited extent; this was followed by malaise, muscular fatigue, and a sense of exhaustion, nausea, and slight shiverings, followed by febrile action, and a temperature ranging from 100° F. to 101.5° F. The blood, examined during the febrile stage, showed changes similar to those observed in the guinea-pig, but less marked. In all the cases, vomiting and looseness of the bowels were produced, but the vomit and dejecta were not preserved for examination. The dose employed for human beings was half a cubic centimetre, as compared with six cubic centimetres in the case of guinea-pigs.

3. *Preventive Action.*—The general results obtained by Ferrán are stated by the Committee to be absolutely confirmed by them. With regard to the guinea-pigs, it was found that, if those which survived a first injection were afterwards reinoculated, even with doses invariably fatal if employed on the first occasion, *without exception*, no ill results followed beyond a very slight constitutional disturbance. Further, those persons who, having been once inoculated, submitted themselves to reinoculation, experienced only a slight local irritation upon the second occasion. There appears to have been four of these cases, the clinical details of which, together with those of the seven others who were inoculated once only, are given in an appendix to the report.

Lastly, it is mentioned that Dr. Ferrán himself, having suffered one morning with a looseness of the bowels, causing two unusual evacuations, found in the second true specimens of the comma-bacillus, which he used for a series of cultivations.

The report ends by saying that, in the opinion of the Committee, the identity of the microörganism of Ferrán with the comma-bacillus of Koch has been established, and that its pathogenic effects have been proved to be prevented by inoculation. Therefore, a means of averting cholera has been discovered.

The original report was illustrated by photographs, which are not reproduced in the printed copy.—*British Medical Journal*, May 30, 1885.

Society Meetings.—The New Hampshire State Medical Society holds its annual meeting on Wednesday and Thursday next, at Concord.

The American Neurological Association will hold its Eleventh Annual Meeting in the Hall of the Academy of Medicine, of New York, on the 17th, 18th, and 19th.

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ORIGINAL ARTICLES.

AN EPIDEMIC OF TYPHOID FEVER AT PLYMOUTH, PA.

(*SECOND PAPER.*)

BY LEWIS H. TAYLOR, M.D.,
OF WILKESBARRE, PA.

FOLLOWING the writing of my first article on the subject of the Plymouth epidemic, on May 9, which was published in THE MEDICAL NEWS of May 16, Dr. J. L. Miner and myself continued the investigation of the subject thoroughly for several days, and these additional observations were embodied in a more extended essay which was read before the Luzerne County Medical Society, on May 21, and subsequently before the Pennsylvania State Medical Society at Scranton.

While finding many points of interest confirmative of the opinion expressed in my previous paper, I have found nothing which throws any doubt upon the conclusions reached at that time. It has seemed to me that an abstract of my completed paper, containing some additional facts and points of interest might be acceptable to readers of THE NEWS, especially since a few gentlemen of our profession have seemed to doubt the possibility of the epidemic arising from water polluted by the excreta of a single typhoid patient.

The first post-mortem examination was secured by Drs. Davis and Beckwith only after urgent solicitation, the people being singularly averse to any such examinations, notwithstanding that many cases had already died. This autopsy was conducted by Dr. E. O. Shakespeare, of Philadelphia, on May 10, in the presence of several physicians from Wilkesbarre and Plymouth. Two other examinations were made on the following day by Drs. Shakespeare and French, and in every case the characteristic lesion of Peyer's glands was found. If doubt as to the diagnosis lingered in the minds of any, it was finally dissipated when these autopsies showed the disease to be genuine typhoid fever.

Of the various causes suggested as productive of the epidemic, the filth theory soon fell to the ground, because,

1. Plymouth is not in worse sanitary condition than neighboring towns where the disease does not prevail.

2. Its sanitary condition was not worse at this particular time than on proceding years.

3. All parts of the town were affected, the clean as well as the filthy.

4. It is admitted by common consent that filth *per se* does not cause typhoid fever. The emanations therefrom may so prepare the system, or, figuratively speaking, so till the ground that when the proper seed is sown an abundant harvest may be the result.

Whether typhoid fever may be communicated directly through the air or not, is still a mooted question, but it is generally admitted that in a large majority of cases, at least, the poison is conveyed to the system by means of polluted food and drink taken directly into the stomach.

The inhabitants of Plymouth receive their drinking water either directly from private wells, or from hydrants under control of the Plymouth Water Company. Knowing the history of many epidemics of typhoid fever, and knowing the facility with which wells become contaminated from carelessly located privies, the thought of well-water contamination naturally presented itself to many. That this was not the case was clearly shown by some very interesting facts.

Near the extreme southern end of Plymouth, upon the banks of Coal Street Creek, a house was found in which hydrant water is used, and in this house two persons were sick with the disease, while in another, situated but sixty feet away and supplied with well water, all the inmates are and have been free from the disease. A little further to the north of these two houses there are found, on Temperance Hill, eleven families using well water, and no case of typhoid fever has yet appeared in any of these families.

On the upper side of Lee Street almost every family using hydrant water is affected, while those living on the lower side of the same street are all supplied with well water and none of them are sick. Upon Welsh Hill, a community of several hundred persons was found supplied exclusively with well water. There were upon the day of our investigation, but six persons sick on this hill, and these all were persons who had been working in Plymouth in the daytime and were accustomed, a part of the time, to drink water from the hydrants.

The same relative condition exists in other parts of the town, the investigation of numerous cases showing that persons who used well water in general and are suffering from the disease, are those who had been in the habit of drinking hydrant water while away from their homes, while those who use well water exclusively are not attacked. It is thus shown conclusively, we think, that well water as a factor in the causation of this epidemic must be excluded.

Inasmuch as the disease is found wherever hydrant water is used, and *only* there, the conclusion is irresistible that this was the chief and only cause of this most remarkable outbreak. The hydrants receive their supply from two sources. During the greater part of the year it is from a mountain stream of great purity, which is distributed through the various streets by pipes running from the lower or first of four successive reservoirs, formed by huge dams of

masonry across the stream. Occasionally, however, when the water in this stream is quite low, the pipes are supplied with water pumped directly into the mains from the Susquehanna River. This was the case from March 20th, at noon, to March 26th, in the evening, of the present year.

Here then are, apparently, two possible sources of contagion, and it is evident that the cause of the epidemic must be traced either to the water pumped from the Susquehanna, or to that supplied by the mountain stream.

Why not the river water? In considering this question we must not forget the exact time the river water was used, March 20th to March 26th, and the relation of this time to the outbreak of the epidemic. From replies to a circular sent to the physicians of Plymouth, I find that the outbreak occurred about April 10th to 12th, there being one case reported as early as April 9th. A large increase occurred after April 15th. The gentleman who saw his first case April 9th, saw but thirteen more in the next five days, while another who saw his first case April 14th, saw seventy-five new cases in the five succeeding days.

The length of the period of incubation in typhoid fever varies, but it is usually stated as being from ten to fourteen days. Dr. Stillé states fourteen days. Liebermeister says three weeks—*i. e.*, counting to the time the patient is thoroughly ill with the fever, though he says in many cases the period seems to be but seven days. Wilson, in his treatise on *Continued Fevers*, gives the average period as fourteen days, though he cites numerous cases to show that exceptionally it may be as short as five, three, or even two days, while very exceptionally it may be as long as four weeks. He mentions one particularly interesting epidemic in which a number of persons on a certain day visited a neighboring town, and while there drank from a well polluted with excreta from a typhoid fever patient. Of these, fourteen were attacked who drank from the same well at the same time, and their cases showed a range in the period of incubation from eight to eighteen days.

Dr. Thomas Watson cites the following interesting cases:

"In North Taunton, A. and B. lodged next door to a house in which typhoid fever existed. The two houses had a common privy. Both of these men took the disease, and becoming too ill to work, returned to their respective homes in the parish of Morchard, seven miles off. A. at once took to bed. Ten days after, his two children were laid up with the same disease, and had it severely. B., a single man, lodged with two aged persons. When at his worst a friend C., who called, was asked to assist in raising him in bed, and was overpowered by the smell. Ten days after, in another part of the city, C. was also down with the fever."

Trousseau cites cases to show that the period of incubation is eight days. All of the authorities that I have consulted admit that many cases, at least, may appear in ten days from the time of contagion, while others may require a much longer time.

But, suppose we admit from two to three weeks as a proper *average* period of incubation, instead of from ten to fourteen days, as is claimed by many, we should nevertheless, naturally expect *some* cases to arise in ten days from the time of infection. If then it be from drinking Susquehanna water, we should look for some cases of the fever as early as March 30, or ten days from the time the pumping of river water began; but no such cases appear, nor do they appear within ten days after the pumping ceased—*i.e.*, within ten days of March 26. Inasmuch as no outbreak occurred previous to April 10, we would infer that the poison was not taken previous to the last days of March or the first days of April; in other words, not until several days after the use of river water ceased.

Whether decomposing sewage in drinking water will produce typhoid fever without the dejecta of a typhoid patient being present is still an open question. Dr. Downs, reported in *The Lancet*, and quoted by Parkes, records six cases of typhoid as the result of the overflow of non-typhoid sewage into a well. On the other hand cases recorded by Allbut and Wohlrab, show that contaminated water may be used for a long time without causing typhoid fever, then persons affected with the fever enter the place, and their dejecta pass into the water causing an outbreak of typhoid fever.

In an admirable article read by Dr. E. G. Janeway, before the New York Medical Society, February 18, 1884, and in the discussion which followed, the prevalence of opinion seems to be that the disease does not arise *de novo*, but is spread only by contamination from previous cases of typhoid.

An extremely strong case is quoted by Ballard:

"Very polluted water had been used for years by the inhabitants of Muncy without causing fever, when a person with typhoid came from a distance to the village, and the excreta from this person were washed into the stream supplying the village. Between June and October, 1872, no less than 76 cases occurred out of a population of 832 persons. All of those attacked drank the stream water habitually or occasionally. All who used rain or well-water escaped except one family, who used the water of a well only four or five yards from the brook. The case seems quite clear: first, that the water caused the disease; and, secondly, that though the water polluted with excreta had been used for years, no enteric fever appeared until an imported case introduced the virus."

He further says:

"Positive evidence of this kind seems conclusive, and we may now safely assume that the presence of typhoid evacuations in the water is necessary. Common fecal matter may produce diarrhœa, which may be febrile, but for the production of enteric fever the specific agent must be present."

If this argument be true, then river water polluted with the sewage of a large city free from typhoid is less dangerous than a smaller amount of water containing the specific poison.

All of us, no doubt, have seen cases of this disease which defied all our efforts at discovering their source. I call to mind one special case under my care last autumn. The patient was a lad of fourteen years, in a house remarkable for neatness and cleanliness, nor did the most digilent search reveal any difficulty whatever with the water-pipes or the sewer discharges. No other member of the family, consisting of seven, was afflicted.

The sewers of Troy all empty into the Hudson, and Albany, which is six miles lower down, derives its water from the river after this sewage has been poured into it. The borough of Nanticoke, situated a few miles below Plymouth, receives all of its hydrant water from the Susquehanna, but at no time has it suffered from a serious outbreak of typhoid fever, notwithstanding the water there used must be contaminated by the sewage from populous towns and cities above. In fact, it is proven that Nanticoke had fewer cases of typhoid during March and April than in any other months of the past year. It is well known, however, that typhoid fever is frequently found in Wilkesbarre, three miles above Plymouth, and might not the Susquehanna become polluted with the specific poison at this place?

A careful report from thirty-one physicians in Wilkesbarre (I failed in my efforts to get reports from two of our physicians), shows that they had under their care between January 1 and April 1 of the present year, twenty six typhoid fever cases. Of all this number only two were in houses connected with the sewers, and thus in all this time there were the excreta of only two typhoid patients poured into the Susquehanna at Wilkesbarre, and in both of these cases disinfectants were used to neutralize the poison.

The flow of the Susquehanna at Wilkesbarre at low water mark, as taken from the Government survey, is 930 cubic feet per second, showing that the dilution of this poison would be, at least, at the rate of 602,604,000 gallons per day, and the danger from this source would thus be almost infinitesimal.

But there might be pollution nearer to Plymouth than the cases mentioned above. Dr. C. W. Spand, a medical friend, in answer to certain inquiries, gives me the following:

"In the summer of 1884, typhoid fever broke out in Whitewash Hollow, a small valley that runs from No. 2 to No. 4 breakers and up to the Boston slope just below Larksville. In nearly every house from No. 2 to No. 4 breaker, one or more members were down with it up to March of this year. The snow melted in that locality during the latter week of March very rapidly, filled the creek with running water, and as the people were indifferent as to what was done with the excreta, it was carried down said stream into the river below Boston Hill, just above Plymouth, and in my opinion the fever sprang from the germs that were carried down into the river from Whitewash Hollow."

Now, at first blush, this might seem a point for consideration; but that it could have had no effect whatever in causing this epidemic, may be shown from the following statements:

First, this stream joins the Susquehanna at the upper end of Plymouth, and any one taking the trouble to examine it will find that it remains a distinct stream flowing close to the right bank of the river for a long distance, and does not readily mingle with the general current. The Plymouth Water Company, however, took their supply two hundred and fifty feet from shore.

Second, there is but very little sewage carried by this stream at any time, as but few houses are situated directly upon its banks.

Third, whatever this stream might contain, it did not, by any possible chance, empty any surface water into the Susquehanna in March previous to the 26th, much less previous to the 20th, for the temperature during the greater part of March was far below the freezing point, thus preventing any thaw of any consequence at this time. As is well known, March was the coldest month of the past winter. On March 20th, the maximum temperature was 20° F.; March 21st, 20.1°; March 22d, 20.1°; March 23d, 23.2°; March 24th, 35.6°; March 25th, 34.8°; March 26th, 46.5°. So it will be seen that there was no day previous to March 26th, that it would be possible for any considerable thaw to take place.[1] If further confirmation of the opinion already expressed, that the river water had nothing whatever to do in causing this epidemic, be needed, it may be found in the statement of a few additional facts and in the history of some very interesting cases.

It must be borne in mind that the river water used between March 20th and 26th, was not pumped into the reservoir and thence distributed to the town, but was pumped directly into the pipes as already stated, and chiefly devoted to supplying the mines and that part of the town bordering on the river, *i. e.*, Main Street, and this part was thus supplied during the whole of the time of pumping; while the valves were all closed in the pipes leading from the Main Street pipe to the upper or back part of the town, and this latter part was thus supplied chiefly with water from the reservoirs. But should work at the mines be stopped during any of this time, it would be possible for some of the water pumped from the river to force its way into the bottom of the first reservoir and thus be distributed throughout the town, and it is without doubt true that the back streets were thus supplied with some river water for, at least, two days of this time. It is a notable fact, however, that typhoid fever is not more prevalent, but really less so, in the part supplied with river water during the whole of this time, than in the parts supplied chiefly with mountain water. But all river water in use, I am informed by the Superintendent, would pass out of the pipes in six hours after the pumping ceased, and it thus could not have been used later than March 27th. If, then, the pumping of river water ceased on the evening of March 26th, persons moving to Plymouth after the following day could not possibly have drunk such water from the hydrants.

The following cases seem to bear directly upon this point:

CASE I.—Mrs. J. K. came to Plymouth from Afton, Wisconsin, and arrived March 30th, four days after river water was in use. She was taken sick April 18th, though she had been feeling unwell for several days previously. She is now, May 21st, convalescent from a severe attack of typhoid fever.

CASE II.—Mr. M. F., patient of Dr. C. H. Wilson, had been working in Plymouth during the winter, but on April 1st moved his family from Ashley to Plymouth. Himself and two others of his

[1] For the above record of temperature I am indebted to the Rev. Dr. Hodge, of Wilkesbarre, who has charge of the Government meteorological observations at this place.

family, who had not been in Plymouth previous to April 1st, are now ill with the fever.

CASE III.—Miss McG., patient of Dr. F. L. McKee, moved to Plymouth from Sugar Notch, April 1st, and was taken sick with typhoid fever April 15th, though she had been complaining two or three days previously.

CASE IV.—Miss H., patient of Dr. Guthrie, went to Plymouth from Wilkesbarre on March 30th, and remained thirteen days. She returned to Wilkesbarre on April 12th feeling unwell, and was seriously ill with the disease by April 15th.

CASE V.—Miss A. came from New Jersey to Wilkesbarre in March. She visited Plymouth first on March 25th, remaining only from 10 A. M. to 3 P. M. She went again on March 27th, remaining about ten days; was taken sick on April 18th, and has been seriously ill ever since.

CASE VI.—Mrs. C , patient of Dr. Guthrie, visited Plymouth first from March 21st to March 24th. Again on March 31st, and April 1st. Again from April 17th to 21st. She was taken sick on April 22d. If she became infected between March 21st and 24th, the period of incubation would be one month, which all admit is highly improbable. If, however, she drank contaminated water on April 1st, the period of incubation in her case would be twenty-one days, or the time claimed by Liebermeister as necessary.

CASE VII.—R. B., patient of Dr. Spencer, of Dallas, visited Plymouth early in April about the 5th. He drank water at a barber shop, and also at a livery stable, was taken sick April 15th, and by April 18th had well-developed typhoid fever.

CASE VIII.—C. C., patient of Dr. Spencer, visited Plymouth about the last day of March to attend a funeral. He drank considerable water at a hotel, as he was very thirsty. He was ill with typhoid fever, and called the doctor on April 22, though he had been ailing nearly a week.

CASE IX.—Mr. S. moved his family to Plymouth on March 30th, though he had previously been working there. He was taken ill about April 13th, and died on April 30th. His wife was taken ill on April 18th, and died on May 20th. Frank S. visited this family about April 9th, and later. He, too, was taken sick and died early in May.

CASE X.—Miss L. went to Plymouth with Case II., to assist the family for a few days. She remained a week or ten days, returned to her home in Ashley, and was soon after seriously ill with typhoid fever.

CASE XI.—Dr W., resident physician at German Hospital, in Philadelphia, visited Plymouth on April 1st, and drank of the water until April 4th, when he returned to Philadelphia. In a few days after his return he began to feel languid, and this feeling progressed gradually. On April 16th, he had a chill, and also on the two following days. April 18th, he took to bed and was seriously ill with typhoid fever for some weeks. The temperature on the 10th day was 105°, and continued from 104° to 105° for several days.

These all drank water in Plymouth, but did not drink river water. No doubt other similar cases exist, but they were not brought to the attention of the writer of this article.

Is there anything further needed to convince the most sceptical that the Plymouth epidemic was not caused by using river water? If so, here it is. In pursuing our investigation,, we found at Ridge Row, a community of twenty families living in ten double houses, and at Broadway, a community of forty families in twenty double houses. These two places are in the upper end of Plymouth, and are entirely free from the fever. But all through the fall and winter, and even through the fatal month of March, they were supplied with water by the Delaware and Hudson Company, pumped directly from the deadly (?) Susquehanna, sixty feet from shore, and half a mile nearer to the Wilkesbarre sewers, than the point at which the pipes of the Plymouth Water Company enter the river. It is proper to state that at Broadway there are two wells, and at Ridge Row one spring and one well, and no doubt many, especially at Ridge Row, used spring water, but the majority of these sixty families used river water exclusively, and continued to do so until April, and, as above stated, no case of the fever has appeared among them.

The people of Plymouth have at various times used river water in previous years without causing outbreaks of typhoid fever. The pumps were used continuously in 1882, from October 27th to January 1st, a period of sixty-five days. Again from September 30, 1883, to February 1, 1884, 124 days, and again last autumn from July 30th to November 24th, a period of 118 days.

No such outbreak followed these pumpings. Can we be made to believe that the river water, which was comparatively innocuous to the people of Plymouth at one time for a period of 110 days, when typhoid fever was rife in the city just above, should in six days of the following March, cause an epidemic affecting more than one thousand people, and that at a time when it is proven that it was not contaminated by typhoid fever?

There remains then but one possible cause for this most serious and deplorable epidemic, and that is, contamination of the mountain stream supplying the Water Company's reservoirs.

The history of the case of typhoid fever upon the banks of this stream has already been given in my first paper and need not be dwelt upon in detail here. The dejecta passed at night were thrown out on the banks of the stream, while that passed during the day were emptied into a privy a little further back, the contents of which lie upon the surface of the ground. These dejecta were thrown out from time to time until the accumulation no doubt equalled the daily dejecta from many such patients. They remained innocuous upon the snow and frozen ground until some time between March 25 and April 1, when they were washed into the stream and into the third reservoir.

It should be remembered, that the maximum temperature on March 26 was 46.5°; March 27, 56°; March 28, 48°; March 29, 37°, increasing rapidly until April 4, when a temperature of 70° was reached. Also, that this house does not stand in a ravine or in a protected spot, but in the midst of an open clearing, which clearing would naturally feel the effects of the sun's rays, and part with its snow

and accumulated filth sooner than the more protected regions which also drain into this stream.

March 26, with a maximum temperature of 46.5°, is the first day upon which any considerable thaw could occur. Upon this evening the Superintendent of the Water Company visited the reservoirs to ascertain whether it would be allowable to discontinue the pumping of river water. He found the first and second reservoirs almost empty, while the third was filling rapidly, the short pipe which allows the water to discharge from the bottom of the third into the stream leading into the second reservoir being tightly frozen. He caused a fire to be built to melt the ice in this pipe and then stopped the river pumps. This water with the accumulated typhoid fever poison was discharged from the bottom of the third reservoir, ran down to the second, on to the first, and was thence distributed to the town, in all probability, between the 28th of March and the 4th or 5th of April.

When might we then expect the first cases from this cause to appear? Regarding the period of incubation as fourteen days, we would look for the first case to appear from April 10 to 15, with possibly a few exceptional cases somewhat earlier, while the majority would come somewhat later.

We do not presume to say that all of this poison passed out of the third reservoir in five days. No doubt some of it lingered and was operative in diminished strength for some time later, and this but explains more fully the lateness with which some cases of the disease appeared.

It seems to me that the simple statement of these facts as I have given them, without any warping or twisting to suit preconceived theories or desirable conclusions, is sufficient to explain fully the cause of this sad scene of desolation, and it points unmistakably to the polluted mountain stream as the chief and only cause of the present epidemic of typhoid fever in Plymouth.

As previously stated, our first investigation was made on May 6th; we examined carefully the whole length of the stream to some distance beyond the fourth reservoir, and reached unhesitatingly the conclusions already expressed in this paper. A few days later the same ground was gone over by Drs. Shakespeare and French, of Philadelphia, and in a preliminary report to the Philadelphia County Medical Society, on May 13th, they confirm *in toto* the report mentioned in my first article. Among other remarks they gave the following:

"During the period of pumping from the Susquehanna the water in that river was lower than it had been at any time for years, and the surface was frozen tight. The city of Wilkesbarre, containing 30,000 inhabitants, delivers its sewage directly into the Susquehanna, the mouth of the lower sewer emptying only two miles above the Plymouth pumping station, while the current is very rapid between the two towns. The water is further contaminated by refuse water from five or six mines, as well as by the garbage from the abattoirs at Wilkesbarre. Notwithstanding this unusually filthy condition of the Susquehanna water, it is beyond question entirely innocent of causing the epidemic, for the following and other reasons."

They then go on to state certain facts already presented in this paper, and conclude as follows: "No other conclusion can be arrived at than that this infective poison existed in the mountain water, and originated from the one case of fever in the house on the side of the stream."[1]

From some unaccountable reason this plain statement was misquoted in the morning papers, and it was made to appear that the gentlemen above mentioned had expressed themselves in favor of the river water theory. This called forth a denial from these gentlemen, and at the meeting of the Citizens' Committee, in Philadelphia, the next day, the following statement from Drs. French and Shakespeare was read:

"We observe that, in some reports of our opinion of the origin and spread of the epidemic at Plymouth, we are quoted as expressing the belief that the Susquehanna water, containing the sewage of Wilkesbarre, caused the disease. This is quite contradicted by the facts which we were able to collect, and is just the opposite to our belief, based upon our investigations. We are of the opinion that the Susquehanna water had nothing to do with the outbreak of the epidemic, but that, on the contrary, those portions of the town which were less supplied with mountain water, and more supplied with Susquehanna water, have suffered the least."

A few days later a third thorough investigation was made by Drs. Taylor and Edson, of the New York Health Department, and Chemist Martin of the Columbia School of Mines.

Their report[2] has not yet been published, but they expressed themselves as decidedly of the opinion that the epidemic was due to the polluted mountain water. They found one or two cases of the disease in families supplied with milk from neighboring families where the disease existed, but as these had also drunk the hydrant water it was impossible to tell from which source the infection came.

A fourth thorough investigation was made by a Committee from the Buffalo Board of Health, Dr. A. H. Briggs being Chairman. After a statement of the history of the epidemic, etc., they conclude as follows:

"From the above facts we drew the conclusion that this epidemic owes its origin to the solitary case in the Davis family. The excrement thrown on the slope un-

[1] Since writing the above, the report of Drs. Shakespeare and French has been published in full in pamphlet form, with an appendix containing valuable sanitary rules for the people, in relation to stamping out the epidemic.

[2] An abstract of the New York Committee's report appeared in the *New York Tribune* on May 28. They state the same facts as given in this paper, and reach the same conclusions. They also say: "The Water Company has four storage reservoirs in a ravine extending to the top of the Shawnee Mountain, overlooking the town. These reservoirs have a capacity of about 10,000,000 gallons. They are fed by mountain springs and an artesian well, 1950 feet in depth. In the extreme cold weather of last winter the people let the water run day and night to keep the pipes from freezing. All the water stored in the four reservoirs was exhausted on March 20, the springs in the mountain having dried up. For a week water was pumped from the river, but the people disliked to use it, believing that the river was contaminated by sewage from Wilkesbarre, three miles above. Water from the mountain reservoirs was used again on March 27. It is now believed that if the river water had been used a few weeks longer, the great epidemic would not have occurred."

doubtedly contaminated the water of the entire brook. It is a notable fact that those using water from springs and from the Susquehanna River have been largely exempt from the scourge."

In fact, the same conclusions have been reached by everybody who has made any investigation of the matter. The opposition has come from persons who have not visited the ground, but who have written from the privacy of their offices upon the supposed possible origin of epidemics. Now, it is not the province of this report to discuss the cause of possible epidemics, or of epidemics of typhoid fever in general, but to state as clearly as may be the cause of the present epidemic in Plymouth. It is true that polluted well water may cause sickness, but it did not cause this epidemic. It is true that polluted milk may cause sickness, but it did not cause this epidemic. It is true that polluted river water may cause sickness, but it did not cause this epidemic.

I trust I may not be misunderstood in this matter, nor be quoted in any way as favoring the use of river water for drinking purposes, especially of river water contaminated by sewage. The subject is not a pleasant one to contemplate, and it should ever be condemned by us, and ever severely condemned. The constantly increasing amount of sewage poured into the Susquehanna at Wilkesbarre and neighboring towns will ever render this a dangerous source of supply to the people of Plymouth. But even river water contaminated with sewage without the specific typhoid fever poison, is not so dangerous as reservoir water contaminated by such specific poison. I would say further, that the river water used in Plymouth from March 20 to March 26, in my opinion, had nothing whatever to do with the causation of the present epidemic, except, possibly, indirectly by rendering the system more susceptible to the poison that subsequently followed. Had river water alone been used at this time there would possibly have been the usual number of isolated cases that any year may show in Plymouth, but there would have been no serious epidemic had it not been for the excreta thus carelessly thrown out upon the ground, and later washed into the stream.

In considering the possibility of one patient poisoning a thousand in Plymouth, we must bear in mind all the attending circumstances.

1. The accumulation of weeks, equalling the dejecta of many patients.

2. The nearness to the stream.

3. The sudden thaw pouring the surface water into the empty reservoir.

4. The concentration of the poison in a small amount of water.

5. The short distance to the town, and finally the possible previous preparation of the soil for the reception of this seed, which sprang at once into vigorous growth, and ripened for an abundant harvest of death.

The condition of affairs in Plymouth, but a short time back, was sad in all its features, but it nevertheless contained many points of interest to medical men. We had in this epidemic all the features presented that were necessary to a complete study of typhoid fever. Here are the regular typical cases, together with the many varieties, or seemingly exceptional cases. Here are the three classes so graphically described in Reynolds's *System of Medicine*.

The *first class*, with its insidious, gradual approach, moist, tolerably clean tongue, cool, pallid skin without eruption, and later presenting the more serious typhoid symptoms, ending too often, when least expected, in death.

The *second class*, with its more sudden approach, moist, but furred tongue, high fever, etc.

The *third class*, with dry, glazed tongue, intense heat of head, acute delirium, frequent vomiting and purging, painful abdomen, etc. All these have been present.

This epidemic, as already mentioned, has been widespread, and, from careful inquiry, I find no occasion to change the statement made in THE MEDICAL NEWS, under date of May 9th, that in Plymouth and its immediate outskirts there have been rather more than one thousand cases. The death-roll thus far has reached nearly one hundred. It must not be supposed that everybody sick in Plymouth is down with typhoid fever. There are, undoubtedly, many ill with other diseases, and, undoubtedly, many ill with fever not distinctly typhoid. Many new cases will probably arise from secondary infection, as gross carelessness has existed among the people in regard to disposing of the dejecta, and even physicians themselves have not exercised that care which the urgency of the case demanded. Especially are the wells upon the hillsides liable to contamination from carelessly disposed excreta.

It is one of the most remarkable epidemics in the history of typhoid fever, and teaches us some important lessons at fearful cost. These have already been sketched in my previous paper, and need not be rehearsed in this.

Another lesson taught by this history comes more nearly home to us all. The water companies throughout our land should be taught that they must furnish us the water, for which we pay, from the best sources that the country affords. Not only should they avoid the use of river water contaminated by sewage, but they should be compelled to remove from the banks of their streams and reservoirs not only all probable, but all possible, sources of pollution.

Shall we, too, wait for a similar sad experience brought to our own doors to teach us the lesson; or shall we not rather, by being forewarned, be, also, forearmed?

In gathering material for this essay I have been especially indebted to my friend, Dr. J. L. Miner, who has been my associate throughout the investigation. Also to Mr. O. M. Lance, Superintendent of the Plymouth Water Company; to Mr. Delbert Barney, student of medicine, and to the physicians of Plymouth and elsewhere who have so kindly answered my inquiries and assisted in gathering facts relative to the epidemic.

WILKES-BARRE, June 13, 1885.

DISINFECTANTS.

PRELIMINARY REPORTS OF THE COMMITTEE ON DISINFECTANTS OF THE AMERICAN PUBLIC HEALTH ASSOCIATION.

XII.

EXPERIMENTS WITH SULPHUROUS ACID GAS.

BY J. H. RAYMOND, M.D.,
OF BROOKLYN, N. Y.

THE following experiment was made in Brooklyn, at the request of the Commissioner of Health, with the object of determining the germicide value of sulphurous acid gas, produced by the burning of sulphur in the manner recommended by boards of health generally. Dr. George M. Sternberg, U.S.A., kindly proffered his services, and conducted the inoculation with material prepared by him at the John Hopkins University. The methods employed were the same as he has employed in similar experiments, and which he has repeatedly described. Dr. W. E. Griffiths, of Brooklyn, and the reporter, assisted in the experiment.

The room selected was on the second floor of a private residence, and connected with it was a small clothes closet. Two doors opened out from it, one into the hall; the other into an adjoining room. The experimental room had a single window. All cracks and crevices, by which fumes could escape, were carefully closed by cotton. In the room were the following articles: A carpet on the floor; a wooden bedstead with springs, on which were two mattresses in close contact; a chair, over which was spread a bed-quilt; a sofa; an empty stand of drawers, on the top of which was placed a large book; the closet was empty. The room and closet together contained, as nearly as could be ascertained, 1850 cubic feet of air space, and were in free communication.

On the 18th of April, pieces of blanket, about four inches square, soaked with blood from a rabbit, killed while affected with septicæmia, and other similar pieces soaked with blood from another rabbit affected with anthrax, were exposed in different parts of the room, as hereafter described. Some of these pieces were folded double, with the blood inside the fold; others were left unfolded.

Piece No. 1, soaked with septicæmic blood, unfolded, was placed on the floor of the closet.

No. 2, septicæmic blood, unfolded, was pinned to the upper part of the window frame, eight feet from the floor.

No. 3, septicæmic blood, folded, was attached to frame of closet door, seven feet from floor.

No. 4, septicæmic blood, unfolded, was placed between the mattresses, which were in close contact.

No. 5, septicæmic blood, unfolded, pinned to the underside of the bed-quilt, which was spread over the chair.

No. 6, anthrax blood, unfolded, placed on the closet floor.

No. 7, anthrax blood, folded, attached to frame of closet floor, seven feet from the floor.

No. 8, anthrax blood, unfolded, placed between the lower mattress and springs.

No. 9, anthrax blood, unfolded, attached to frame of the door leading into the adjoining room, six feet from the floor.

No. 10, anthrax blood, unfolded, placed between the mattresses.

No. 11, anthrax blood, unfolded, placed under the carpet, eight inches from the edge; the carpet again laid down, but not tacked.

No. 12, anthrax blood, unfolded, placed in the middle of the book, between the leaves, the book being closed.

No. 13 was a piece of blanket soaked with anthrax blood, which was not exposed in the room, but was prepared for purposes of comparison.

No. 14 was another piece soaked with septicæmic blood, and also not exposed.

Two half-quills of fresh bovine vaccine virus were placed on the stand of drawers, and one half-quill on the top of the frame of the door leading into the adjoining room. The corresponding halves similarly marked were placed in a tight preserve-jar, which was at once put in a refrigerator in another part of the house.

In the middle of the room was placed a large coal-scuttle, nearly filled with wet ashes, and in this an iron pot, holding four pounds of broken sulphur and two pounds of flowers of sulphur; this was then well moistened with alcohol, and a lighted match applied. When the sulphur was well burning the door of the room was closed, which was at 1.25 P.M. At 11.25 P.M. the hall door and window were opened for one hour, and the room thoroughly aired. At the end of this time the odor of sulphur was distinctly perceived, but there was no difficulty in breathing in any part of the room. The sulphur in the pot was completely consumed. At the end of the hour the door and window were again closed, and kept so until 10 A.M. the following day, the 19th. When the door was again opened the air of the room was so impregnated with sulphur that respiration was impossible, and an airing of ten minutes was necessary before it could be entered.

At the end of this time the pieces of blanket were collected, and at 12 M. healthy rabbits were inoculated by Dr. Sternberg with the blood soaked out from the pieces of blanket in sterilized beef-tea. The rabbits, as fast as inoculated, were put in a cage, each in a separate compartment, and given the same numbers as those of the pieces of blanket with the blood of which they had been inoculated. The inoculation was completed within an hour.

The vaccine which had been exposed to the fumes was put into the jar containing the non-fumigated virus, and the jar replaced in the refrigerator, where it was kept until the material was used in vaccination.

RESULTS.

Rabbit No. 3, inoculated with septicæmic blood from folded piece which had been fumigated, was found dead in the cage at 7 A.M., April 21st, forty-three hours after inoculation. He was apparently well the night before; the exact time of death is not known.

Rabbit No. 14, inoculated with non-fumigated septicæmic blood, died at 2 P.M., April 21st, fifty hours after inoculation.

Rabbit No. 7, inoculated with anthrax blood from folded piece which had been fumigated, was found dead at 7 A.M., April 23d, ninety-one hours after inoculation, being apparently well the night before.

April 20th, a child, 7 months old, previously unvaccinated, was vaccinated by Dr. Griffiths in two places upon the same arm, one with virus from the fumigated half, and the other with virus from the non-fumigated half of the same quill. The latter was successful; the former failed utterly.

The same was practised upon a young lady, 20 years of age, showing no vaccine cicatrix, and stating that she had never been vaccinated, with a fumigated and a non-fumigated half of a quill with the same result, namely, failure from the fumigated and success from the non-fumigated slip.

A calf was vaccinated in the same way on the inner sides of the two thighs with the same result.

Interpretation of Results.—There seems to be no doubt that sulphurous acid gas, produced from burning sulphur, destroys the vitality of vaccine virus. This has been hitherto demonstrated by Dr. Sternberg, and this experiment confirms it.

It will be noticed that the rabbit inoculated with non-fumigated septicæmic blood, No. 14, died, as did also No. 3, the one inoculated from the folded piece of blanket, while all the other rabbits inoculated with septicæmic blood, were apparently unaffected and survived—even No. 4, which was inoculated with blood from the blanket placed between the two mattresses in close contact. I cannot understand how the gas could more readily have found its way between the mattresses, and destroyed the germs there placed, than between the folds of a small piece of blanket hung up in the room.

As the rabbit inoculated with non-fumigated anthrax was apparently unaffected, while one inoculated with fumigated anthrax died, I think no conclusions of any value can be drawn from this part of the experiment.

Finally, after a careful review of the experiment and its results, I am led to regard the vaccine experiment as a success, and confirming what has already been well settled,—the experiment with septicæmia as unsatisfactory, and the one with anthrax as a failure.

As a matter of precaution, the rabbits were kept for one month after inoculation, at the end of which time all were well, save the three already referred to.

TRANSPLANTATION OF THE CONJUNCTIVA OF THE RABBIT TO THE HUMAN EYE,

IN A CASE OF SYMBLEPHARON, ASSOCIATED WITH CONVERGENT SQUINT, SUCCESSFUL; SUBSEQUENT CORRECTION OF SQUINT BY TENOTOMY.[1]

By FRANCIS L. PARKER, M.D.,

PROFESSOR OF ANATOMY AND CLINICAL LECTURER ON DISEASES OF THE EYE AND EAR, IN THE MEDICAL COLLEGE OF THE STATE OF SOUTH CAROLINA, CHARLESTON, S. C.

Case.—July 2, 1883. Elias E., of Summerville, S. C., aged eight years, was injured by an explosion of gunpowder in the face and left eye on the 19th of February, four months ago. He suffered intensely for three weeks, and was confined to his room. When convalescent, the face had peeled, the outer half of the left eye was closed by cicatricial tissue uniting a part of the upper and lower lids to the globe, the inner half could be opened by forcing open the lids with the fingers. The right eye had escaped injury He was subsequently operated upon by Dr. ——, on the 15th of June, without relief, as so often happens in such cases.

On July 22d, the case was brought to me. There was a large symblepharon uniting the outer half of the upper and lower lids, and the outer canthus of the eyeball, and extending by a broad pterygium band over two-thirds of the outer half of the cornea. The surface of the symblepharon was injected and covered with numerous granulations, some of them extending over the surface of the cornea. The eye was about half open. There was also convergent strabismus, which remained stationary on closing the other eye. Vision was limited to counting fingers, owing to the partial occlusion of the pupil, and opacity of the cornea. The pupil dilated freely under atropine; the inner part of the conjunctiva was so injected, that it was difficult to determine the limits of the cicatricial tissue. The patient was ordered a collyrium of zinc and rose-water, two grains to the ounce, with frequent applications of warm water, with a tonic of iron and bark, and a generous diet. At the end of a month most of the granulations on the outer half of the ball had subsided, and the congestion of the inner half of the eye had cleared up, thus defining the limits of the symblepharon. This was so extensive that transplantation of healthy conjunctiva of some kind presented the only chance of relief. I proposed to use the conjunctiva of the rabbit.

On August 3d, I performed the operation, assisted by Drs. H. D. Fraser, John Forrest, and Jno. L. Dawson, Jr. The patient being chloroformed the operation was commenced by Arlt's method; dissecting up the broad pterygium-like bands from the cornea and globe, thus liberating the ball, then folding it upon itself, and attaching it out of view under the outer canthus by two fine silk sutures. This allowed free rotation of the eye. It was impracticable to complete the operation by combining Mr. Teale's plan of dissecting up, and transposing healthy conjunctiva from the inner half over to the outer half of the denuded surface of the ball, more than one-half of the outer conjunctiva ocular and palpebral having been removed.

I then gave a black English rabbit, held by two assistants, chloroform. I divided the inner and outer canthi of his right eye, so as to evert the upper lid freely, and dissected off two-thirds of the conjunctiva from the ball, and upper and lower lids, and transferred it to the point of my left index finger by the aid of delicate forceps, keeping the epithelial surface upwards. This required great care, as the conjunctiva of the rabbit rolled up in a mass as soon as it was severed. When spread out upon the point of the finger, the attached or under surface adhered smoothly to it. I then trimmed it in shape and quickly transferred the graft in posi-

[1] Read at the annual meeting of the South Carolina Medical Association, April, 1885.

tion, uniting it by ten points of fine animal sutures (made of the tendons of squirrel tails) to the cut edges of the conjunctiva of the boy's eye. The curved border of the rabbit's conjunctiva, cut away from its cornea, was well adjusted to the outer border of the cornea of the lad. The graft had a slightly bluish cast, contrasting with the white remaining portion of the boy's conjunctiva.

The patient bore chloroform badly, interfering with the rapidity of the operation, which lasted an hour and a half. The eye was dressed with a cold cloth, with a light compress of absorbent cotton, secured over both eyes, as in the dressing after operation for cataract.

August 4.—Vomiting continued yesterday and last night, temperature 100°, pulse 102. He was ordered milk and lime-water, with a mustard cataplasm to the stomach, and morphia in small doses; dressings undisturbed.

5th.—Vomiting lessening, more comfortable temperature, 100°; pulse 96; dressings removed, graft examined and found in good position; it looked rather paler than when first transplanted. Same dressings continued.

6th.—Vomiting ceased, taking nourishment, cheerful; the graft is slightly injected on the lower half, the upper part is in good position but has a slightly shrivelled appearance; dressings replaced.

8th.—Graft injected all over, and it seems to have taken throughout its whole surface. The two silk sutures were removed, the animal sutures are being absorbed; they have produced no irritation to the conjunctiva. The bandage was removed from the good eye, and retained on the bad one. The lad is playing about the room.

10th.—Progressing favorably; dressings removed.

15th.—Patient discharged and returned to Summerville, where I saw him again on the 20th, playing with his companions, and quite comfortable so for as his eye was concerned.

October 1.—On reporting to-day, all the movements of the eye were good; it was still crossed, a few cicatricial bands extending from the upper and lower lids to the adjoining portion of the graft at the outer canthus, but did not encroach on the cornea, or interfere with the movements of the eye. On closing the good one the bad eye became straight, which it could not do before the operation. The cornea had cleared considerably, he could easily tell letters in D. 3 (Snellen).

Up to this time, since the operation, no wash was given for the eye, as I did not know what effect it might have upon the graft, and could not watch the effect, as I was absent from the city, and did not see the patient from the 20th of August, to the 1st of October. The graft was now so thoroughly united, I ordered a mild zinc wash with a view of clearing up the cornea, and preventing the formation of any additional bands of adhesion.

17th.—To-day the opacity of the cornea not having improved, the zinc wash was discontinued, and a solution of hydrobromate of eserine, one-half grain to the ounce of water was substituted, four or five drops to be instilled into the eye three times a day.

30th.—Under the influence of eserine the opacity of the outer half of the cornea has lessened, the outline of the pupil is distinct. Vision has improved, reads words in D. 1 (Snellen). The small cicatricial bands referred to are paler and smaller; solution of eserine discontinued.

31st.—To-day I operated for strabismus, making a double tenotomy. Drs. W. C. Ravenel, and Jno. L. Dawson, Jr., were present. The patient was not as much affected by the after-effects of chloroform as on the previous occasion; the result was satisfactory, and on the 17th the patient was exhibited at my clinic with the black rabbit from whose eye the graft had been taken. The lad has since that time (nearly two years) been at school, and has had no further trouble. I now have the pleasure of presenting him to the Association.

Remarks.—This operation was first performed by Mr. Wolfe, of Glasgow, in 1872. He transplanted the human, as well as the rabbit's conjunctiva successfully in a number of cases. I have seen very few cases reported by American surgeons. It is likely that it has often been performed without the cases being reported. I have been informed of four cases: one was a partial success, the three others were failures. No report has been made of the cases. Dr. Henry D. Noyes, of N. Y., published in the *Medical Record*, February, 1883, the fullest account of cases in this country, and the method of operating, which I have seen. He says:

"Many European surgeons have done the operation, but in this country it has, so far as my information goes, not been extensively imitated. Soon after it was announced I made a trial of it, and Dr. W. I. Little, whose case has recently been published, when he was my assistant in the New York Eye and Ear Infirmary during 1873-4, aided me on more than one occasion. I do not find a record of my earliest operations, but since 1878 there have been seven operations done at the Infirmary, of which one was performed by Dr. Callan, and six were performed by myself. In the majority the lesion was symblepharon caused by burns of the eye, but about four years ago I employed the method to increase the size of the conjunctival sac that a patient might be enabed to wear an artificial eye."

As to the success attending the operation, Dr. Noyes says: "in no instance have I meet with entire failure, while the degree of benefit has been various." The rest of the article describes minutely the steps of the operation and the management of the rabbit, as done by Dr. Noyes, and also by Mr. Wolfe.

The only important difference between the two methods, is that Dr. Noyes transfers the graft from the eye of the rabbit to a piece of cork in a saucer of water, where it is secured by pins and trimmed into shape, it is then transferred to its place either on the palpebral or ocular surfaces as he prefers, and secured by sutures eight to ten, or as many as may be required. Mr. Wolfe measures the shape of the flap of conjunctiva before excising it, and transfers it directly to the palpebral surface, and secures it by sutures; he thinks this preferable to placing the graft on the ball. Dr. Noyes has applied the graft to both ball and lid. To make the cul-de-sac, the stitches are brought through the eyelid and tied over a bit of stick on its outer surface. Both use black silk sutures inserted in the flap of the conjunctiva with a knot, to

mark the epithelial from the raw surface; the other ends of the sutures are threaded with needles. After transferring the graft in position, the same needles and sutures are used to secure it. Mr. Wolfe uses four black sutures; Dr. Noyes two. Both take the conjunctiva from the inner canthus. Dr. Noyes slits up the inner canthus and turns back the angles and stitches them temporarily, which facilitates dissection of the conjunctiva. Both consider quick transportation without previous handling of the conjunctival graft very necessary to success. Dr. Noyes prefers the black rabbit to the white, because the "conjunctiva is firmer and can therefore be more easily handled," and for convenience places the rabbit in a pasteboard box with his head through a closely fitting hole, and gives the anæsthetic and makes his dissection in that position. Mr. Wolfe provides two rabbits, holding one in reserve in case of accident.

In my case I selected the black rabbit, because the cornea is smaller in proportion to the size of the ball than in the white one, affording a larger piece of ocular conjunctiva for dissection. It was necessary to dissect up the cul-de-sac and a part of the palpebral conjunctiva of both lids to secure a graft of sufficient size. This was done by the aid of two delicate forceps, one held by myself, the other by an assistant. On removing the graft it rolled up upon itself, but with care I had no difficulty in detecting the difference between the surfaces. It was then spread out on my left forefinger to which the raw surface adhered closely, and by carrying the finger to the boy's eye, I trimmed it in shape pretty accurately. The graft was taken from the outer side of the rabbit's eye. I slit up the outer and inner canthi, and everted the lids to gain more room for dissection, and because the outer side of the ball affords a larger piece of ocular conjunctiva than the inner, and is more easily dissected away than the palpebral conjunctiva, which is more closely adherent.

In preparing the eye for the graft, Mr. Wolfe and Dr. Noyes dissect separate or remove all cicatrices and adhesions so as to give free motion to the eyeball in all directions. The presumption is that these are cut entirely away. In my case, after dissecting the bands of adhesion from the ball, I inverted the pterygium-like growth under the upper and lower lids, and attached it by two sutures by Arlt's method in operating for pterygium. This, I think, is an important provision in the operation, as it leaves a surface more or less covered by epithelium to come in contact with the epithelial surface of the graft, instead of a larger raw surface resulting from the entire removal of the adhesive bands.

These directions may appear to one who has never performed the operation, or seen it done unnecessarily minute. He will not think so if he attempts the operation without carefully studying the details so necessary to success. I performed it on general principles without refreshing my memory on these details, and did not see Dr. Noyes's article until afterwards when I was looking up the subject. It would have assisted me very much, as it is I think by far the clearest description of the operation I have read.

The sutures I used were animal, made of the tendons of squirrels' tails, which can be split as fine as the finest silk. The objection to them is that only a few in each tail can be used, the others are too short to tie easily. They should be kept in carbolized oil, and before using them should be taken out and wiped and dried an hour or two. This makes them stiff and facilitates the tying; otherwise they are sticky and difficult to handle. The advantages of using these delicate animal sutures are these: they quickly soften after being inserted, produce no irritation, are absorbed on the third day as a rule, except the knots, which are pulled away by forceps without alarming the patient, by cutting them with scissors as when silk is used. It is not necessary even to remove the knots, they disappear or are separated and escape with the secretions of the eye in three to five days. In this case I secured the graft with ten sutures. I had occasion to pull away only one knot, even this was not necessary, as it was not irritating surrounding structures, and mashed up in the bite of the forceps.

Speaking of these sutures, I may digress for a moment to say that I use them habitually in all operations upon the eye, usually requiring fine silk sutures, so as to avoid the necessity of cutting and removing them. In suturing the conjunctiva in the operation for pterygium; bringing forward the recti muscles, in canthoplasty (Agnew's modification), or wounds of the eyelids and face: they are especially adapted to children, in many of whom the removal of silk sutures gives as much trouble as inserting them at the time of the operation. In one case I assisted in using them in suturing a lacerated cornea, after removing the injured lens, and the globe was preserved intact. Union resulted with a leucomatous cornea; the sutures were absorbed. Latterly I have experimented with sutures made from the opossum's tail; one tail furnishes from thirty to forty sutures, and as many short ones about the length of the longest squirrel tail sutures. The sutures of the opossum's tail are very strong, the largest can be split into three or four delicate ones sufficiently strong for most operations about the eye, or for suturing wounds about the eyelids and face. The largest ones are applicable for many purposes in abdominal surgery, more particularly for securing the bleeding surfaces of adhesions of the peritoneum in ovariotomy, or for suturing wounds of the intestine, etc. They are stronger than catgut, produce absolutely no irritation, and are completely absorbed in from three to five days.

MEDICAL PROGRESS.

Influence of Different Agents upon Eberth and Koch's Bacilli of Typhoid Fever.—E. Bagenoff, in the *Vrachebnaia klin. Gazzeta*, 1885, Nos. 5 and 6, states the following facts concerning the bacilli of typhoid fever of Eberth and Koch.

1. The bacillus of typhoid fever is preserved in water and may even multiply to a certain extent. Therefore, drinking-water should be considered as a source of infection of typhoid fever.

2. The milk of the cow is not a favorable medium for developing the bacilli of typhoid fever; nevertheless, these bacilli may live and be multiplied therein, and

therefore the milk of the cow may be an intermediate means of transmitting the infection of typhoid fever.

3. Gastric juice destroys the bacilli of typhoid fever.

4. The parasiticide action of the gastric juice depends only upon the action of the hydrochloric acid contained therein.

5. Pepsin, bile, and the pancreatic secretion do not destroy the vitality of these bacilli.

6. Bile and the pancreatic fluid even seem to favor the development of the typhoid bacilli.

7. Cold arrests the development of these bacilli, but does not destroy them.

8. A temperature of from 98.6° F. to 107.6° F. is most favorable for the development of the bacilli of typhoid fever. Above 113° F. their development is impeded and is entirely arrested when the temperature exceeds 122° F.; *the bacilli* perishing, but their *spores* preserving their vitality.—*Gazette Médicale de Paris*, May 2, 1885.

Eucalyptus as an Antiseptic in Certain Diseases of the Respiratory Passages.—Dr. Bonamy, after treating pulmonary gangrene, diphtheria, and croup antiseptically with eucalyptus in connection with other remedies, considers the influence of the eucalyptus as exceedingly beneficial, and attributes to it much of the success of the treatment employed as indicated below:

1. Atomization of the infusion of the leaves of eucalyptus, repeated every two hours, in the near vicinity of the child.

2. Application of lemon-juice upon the pseudo-membranous spots.

3. Potions containing chlorate of potassa and milk, to which lime-water had been added or the flowers of sulphur (fifteen to thirty grains in twenty-four hours).

4. Wines, champagne—Bordeaux, Malaga—chocolate, coffee, etc.

Though the treatment is complex, it is not more so than the disease. The eucalyptus, administered internally and externally, seems to answer the first indication, namely, to combat the infectious element. The lemon-juice applied locally, and the chlorate of potassa and flowers of sulphur administered internally, seem to answer the second indication, viz., to destroy and to detach the false membrane while the wines, etc., fill the fourth indication of supporting the strength of the patient; for though the vital force of the child is strong, nevertheless it is necessary to provoke reaction. Like the mixture of tar and turpentine recommended by Dr. Delthil, eucalyptus responds only to one of these indications, but in the opinion of Dr. Bonamy, it possesses superior efficiency and to it in a great degree he attributes the simplicity with which the disease is evolved in young patients in whom tracheotomy is performed, and upon others.

In addition to the beneficial results attained in pulmonary gangrene and diphtheria, Dr. Bonamy strongly recommends eucalyptus in whooping-cough in the form of inhalations and draughts, as exercising an evidently salutary influence upon the violence and frequency of the cough and upon the duration of the disease.

Dr. Bonamy concludes his observations by suggesting that for each infectious entity and for each group of organs, a special disinfectant will be found to correspond, and that the antiseptic power of any substance is not always directly in consequence of its intensity, but rather by reason of its approximation by this or that organ or its influence upon one or another infection. Thus eucalyptus seems in pulmonary affections to possess the same direct influence as does quinine upon malarial disease, and mercury upon syphilis.—*Bulletin Général de Thérapeutique*, May 15, 1885.

The Contagiousness of Pulmonary Tuberculosis in Children.—Prof. Ollivier, in a paper read before the Académie de Médecine de Paris, April 28, 1885, insists upon the transmissibility of tuberculosis during childhood, and supports his views by reference to cases in his own clinical experience. In order to protect children from the contagion of the disease, he holds that strict attention to hygiene is necessary, and suggests the following points to be observed:

1. Isolation in families, as in hospitals, of tuberculous children.

2. The non-permission of healthy children to remain for a long time with tuberculous children, and the entire interdiction of healthy and tuberculous children from occupying the same room during sleep.

3. The perfect ventilation of the chambers occupied by tuberculous children,

4. To cleanse carefully the playthings, clothing, linen soiled by expectorated matter, or to destroy the latter by a powerful physical or chemical agency to prevent their drying in the atmosphere.

By attention to the above precautions, Prof. Ollivier believes that this disease, which is continually increasing, may be diminished in children as well as in adults. —*L'Union Médicale*, May 23, 1885.

Cancerous Return After Ablation of Cysts of the Ovary.—M. Terrillon, at a meeting of the Société de Chirurgie de Paris, after discussing the cancerous return sometimes exhibited after ablation of cysts of the ovaries, concluded his observations as follows:

1. There sometimes is seen subsequent to the ablation of a multilocular ovarian cyst after a long or shorter period of apparent health, the development of cancerous disease which is fatal by reason of its general or local effects.

2. This cancerous degeneration is exhibited under two conditions entirely distinct from each other, sometimes appearing in the region of the locality operated upon, the pedicle, peritoneum, and the abdominal cicatrix, and at others appearing in a remote organ, such as the stomach, rectum, uterine neck, the bones or ganglia.

3. In the first case a local return must be admitted, due to implantation of vegetations from the tumor upon the peritoneum, or to the grafting of cancerous elements.

4. The return is easily explained by the nature of the cysts. It seems actually admitted that the cysts of the ovary, properly so-called, have a structure which enables them to be considered as epitheliomata, susceptible of being transformed into sarcomata, carcinomata, etc. The ablation of a cyst which is not united to other parts except by a slight pedicle explains the ordinary absence of return after operation. Certain varieties of cysts with sarcomatous or vegetative walls seem especially predisposed to return.

5. It is impossible actually to establish the proportion of patients who present secondary tumors after ovariotomy, though the number does not seem to exceed two

or three per cent. The mean duration of life in the case of return does not exceed one or two years. Return seems more frequent in patients operated on at an age of forty or fifty years.—*L'Union Médicale*, May 5, 1885.

Therapeutics of Helenin.—Senor Baeza writes, in a Spanish medical journal, in very warm praise of the drug helenin, which is made from the plant *Inula Helenium* (Elecampane), and which, though by no means new to Spanish pharmacy, has only lately been discovered by Dr. Korab to possess antiseptic properties in a very remarkable degree. In comparative experiments made with salicylic, boracic, and carbolic acids, helenin was found to excel all the others in its power of arresting putrefaction. It has also the advantage of being less irritating than carbolic acid, and can be given internally much more freely. A few cases in which it has been advantageously employed are reported. In a case of retained placenta where carbolic acid injections had to be stopped from the intense irritation and pain produced, and where by the fifth day septicæmia had set in, injections were commenced of 20 centigrammes (3 grains) of helenin in 300 grammes of water. At the first injection the odor, which was horrible, disappeared. After two days of this treatment, the placenta was spontaneously expelled, and was found to be odorless, and in a few days the woman was convalescent. In these cases the proportion of helenin recommended is 0.6 per 1000 of water. A case of anthrax which, though treated with quinine, charcoal, carbolic acid, and chlorine water, was gradually invading the surrounding tissues, a fatal result being feared, immediately began to improve on the application of a solution of helenin. A case of ozœna where the breath was so foul that the patient, besides frequently gargling with chlorine solution, was obliged to keep a mint lozenge perpetually in the mouth, was quickly improved by treatment with gargles and lozenges of helenin. A case of itch in a child yielded rapidly to a lotion and embrocation of helenin. Turning now to cases in which the drug has been administered internally. A woman with intermittent fever which had lasted two months, though treated with hypodermic injections of quinine and many other drugs, was given 25 centigrammes of helenin combined with 1 gramme of quinine in 20 pills during each intermission, and was very shortly cured. A patient with phthisis causing colliquative diarrhœa, which could not otherwise be controlled, was given helenin, and though this did not cure him or save his life, it put a stop to the most distressing symptom of the disease. Senor Baeza's own child, aged 15 months, was suffering from enteritis due to dentition. It was given in spoonfuls, gr. 1½ of the drug in about 3 ounces of mucilage, with the result that the diarrhœa immediately began to abate and soon stopped. Dr. Ferrán, who has been engaged in a series of most important experiments with "vaccinia" induced by hypodermic injections of cholera cultivations, has examined the action of helenin on the cholera bacillus, and states that it differs from the action of all other agents, being more destructive to the bacillus. We may mention that helenin is advertised in the *Correspondencia Medica* at 1.50 pesetas (1s. 3d.) per gramme.—*Medical Times and Gazette*, May 2, 1885.

Nephrectomy.—At a meeting of the Académie de Médecine held May 5, 1885, M. Polaillon reported a case of nephrectomy in which the patient was a woman aged 27 years who entered the Hôpital de la Pitié, suffering with a painful swelling in the left side. M. Chauffard confirmed the presence of a tumor which appeared to be in relation with the kidney. Puncture with the aspirator, twice practised at intervals of four hours, evacuated each day from six to eight ounces of a turbid fluid having the odor of urine and laden wtth pus which separated on standing. The urine passed also deposited pus on standing. To complete the diagnosis, M. Chauffard administered thirty grains of salicylate of soda to the patient, and the day following the presence of the drug was confirmed in the fluid obtained by aspirating the tumor. He then injected into the tumor fifteen and one-half grains of a solution of fuchsine, and an hour subsequently the urine was colored red. It was, therefore, shown that the tumor was a cyst containing urine and pus, and that it communicated on the one hand with the kidney and on the other with the bladder through the medium of the ureter. M. Chauffard, therefore, concluded that there existed a pyelonephritis, and considered it probable that the ureter was partly obliterated by a calculus.

M. Polaillon was called in consultation, and the diagnosis confirmed, and inasmuch as the cyst rapidly refilled after puncture and as only transient relief was afforded the patient by this procedure, operation was decided upon, and performed by M. Polaillon assisted by M. Chauffard.

A vertical incision was made extending from the lower border of the twelfth rib to the crest of the ilium. Having arrived at the muscular tissue the bistoury was abandoned and the galvano-cautery substituted therefor, and almost entirely without loss of blood penetrated to the kidney. The posterior surface of the organ was then explored with the finger, and it was discovered that considerable enlargement existed; the organ extending from the vault of the diaphragm to the superior limit of the pelvis. The original incision being now seen to be insufficient, a second incision was made starting from the lower end of the original incision and running forward along the crest of the ilium for two and one-half or three inches, thus affording sufficient space to admit the ablation of the kidney and of making the necessary ligations.

The displacement of a large renal calculus occupying the bottom of the incision caused some tearing of the renal tissue and was followed by a flow of pus mingled with urine and blood. By aid of the forceps introduced into the renal cyst two large calculi were removed. To arrest the hemorrhage produced by the laceration of the kidney numerous ligatures of gut were applied, and, finally, the kidney was detached with the scissors about two-fifths of an inch below the inferior ligature.

The cavity, which was very extensive after removal of the kidney was washed out with carbolized water, and, finally, when hemorrhage was controlled, the lips of the wound were closed by four sutures, a drain introduced, and antiseptic dressing applied. The results of the operation were most happy and the patient is in such condition as renders her recovery assured.—*L'Union Médicale*, May 7, 1885.

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THE SURGERY OF ANEURISM OF THE ABDOMINAL AORTA.

THE surgical treatment of aneurism of the abdominal aorta, a subject replete with great practical interest, has recently attracted no little attention from the publication of two cases by PROFESSOR LORETA, of Bologna, and MR. LUNN and DR. BENHAM, of London, accounts of which may be found, respectively, in the *Memoirs of the Royal Academy of Sciences of the Institute of Bologna*, Vol. 6, 1885, and the *British Medical Journal* for April 11, 1885.

The patient of Loreta was a sailor, thirty years of age, who, on admission into the hospital in December, 1884, was found to have a large pulsating tumor, accompanied by a loud bruit, in the epigastric and left hypochondriac regions, which was traceable to violent efforts in furling a sail in February, 1883. There was little pulsation in the femoral arteries, and the limbs were cold, and the seat of sharp, lancinating pains. On the 19th of December, an incision was carried from the base of the ensiform cartilage to the umbilicus, superficial adhesions were separated, and many deep adhesions between the sac, the stomach, omentum, transverse colon, and liver were divided; but as it was found impossible to dissect the sac from its union with the spleen, diaphragm, and the cardiac end of the stomach, or to trace the tumor down to its mouth, the idea of closing its mouth by ligature or suture, or of emptying, inverting, and stitching up the sac, had to be abandoned. The sac was, therefore, punctured with a delicate trocar, and rather more than two yards of silvered copper wire were introduced into it, when the abdominal wound was closed.

Without entering into minute details of the subsequent progress of the case, it may suffice to say that the bruit had entirely disappeared on the twenty-second day; that the tumor was completely consolidated, and diminished three-quarters in volume, at the expiration of one month; and that the patient was discharged on the seventieth day, apparently cured. Twenty-two days subsequently, however, death suddenly ensued from rupture of the aorta, at the point of union of the artery with the front wall of the sac. The latter was reduced to the size of a walnut, and was filled with organized fibrin and the unaltered wire, which was rolled up into a globular mass.

The patient of Mr. Lunn and Dr. Benham was a shoemaker, thirty-two years old, with a history of syphilis. Ordinary measures having failed to afford relief, distal compression of the aorta by means of Carte's tourniquet, applied just above and to the left of the umbilicus, was kept up for four hours and three-quarters, under chloroform. The tumor soon became harder and smaller, and the pulsation was diminished; the man continued to do well for seven days, when persistent vomiting of grumous material set in, and was accompanied by a feeble and very rapid pulse, intense thirst, and other untoward symptoms. His condition became worse, and death ensued on the twelfth day, when the aneurism was found to be cured; the superior mesenteric artery was completely blocked; and two feet of the jejunum were gangrenous.

The case of Professor Loreta is the first on record in which an aneurism of the ventral aorta has been reached by laparotomy. The insertion of wire into the sac is, however, not novel, that plan of treatment having originated with the late Mr. Moore, at the Middlesex Hospital, in a case of aneurism of the thoracic aorta. Although the introduction of foreign materials such as wire, watchsprings, horsehair, catgut, and silk, with the view of inducing coagulation of its contents, has uniformly been followed by death or failure, the possibility of complete consolidation of the tumor being effected in this way is demonstrated by the case of Loreta, a result which justifies its repetition in cases in which other measures are inapplicable. From the situation of the aneurism proximal compression of the aorta was out of the question; and had the blood-supply of the diseased arterial wall below the tumor not been interfered with by the compression exerted upon the vessel by the coagula in the sac, Loreta's case would doubtless have proved to be a brilliant success.

The case of Mr. Lunn and Dr. Benham is also an illustration of the cure of aneurism, but it likewise shows the almost utter hoplessness of distal compression, which failed in the case of Marshall, and proved fatal in that of Skerritt, from rupture of the sac, and.

as we have seen in the case under consideration, from gangrene of the jejunum, either as the result of direct pressure, or of failure in its supply of blood from occlusion of the superior mesenteric artery. In the patient of Bryant, distal compression of the aorta for sixteen hours induced death by peritonitis, the aneurism having been one of the cœliac axis. In addition to these objections, it is doubtful whether the compression in any of these cases was truly distal, and whether it would not have been more accurately described as combined distal and direct compression.

We cannot but think, with Mr. Jonathan Hutchinson, that surgical measures should not be resorted to until after the failure of general remedies in all cases of aneurism of the abdominal aorta. In a man under his care he succeeded in bringing about a cure in three months by very large doses of acetate of lead, doses which produced toxic symptoms, with a dry diet, absolute rest, and the application of ice to the abdomen. He regards the combined use of acetate of lead, ergot, and iodide of potassium, pushed almost to the extent of poisoning, as constituting the best treatment of these most dangerous cases; and Tufnell's success in two cases, which were cured, respectively, in twenty-one and thirty-seven days, by a restricted diet, rest, and a more cautious use of drugs, goes far to support Mr. Hutchinson's views.

In the event of failure of medical treatment, proximal pressure, whenever it is practicable, holds forth the best prospect for a successful issue. Thus a cure resulted in the cases recorded by Murray, Heath, Moxon and Durham, Greenhow, and Philipson, while Pollock met with a failure, and the patients of Paget and Durham died, respectively, of peritonitis and bruising of the pancreas. Hence the cures amount to 62.5 per cent., while the deaths number only 25 per cent., the risks, apart from prolonged anæsthesia, being, as in distal pressure, from peritonitis and contusion of the viscera. Should proximal pressure be impossible from the situation of the sac, it becomes a serious question, in view of the dangers of distal pressure, whether the operation of Loreta is not the only resource. In the language of Mr. Holmes, in his comments upon the cases that have called forth this article, which may be found in the *British Medical Journal* for April 18, 1885, "we incline to this method," Loreta's, "rather than to a pressure, which was rather doubtfully distal." Whether this view be correct or not, further experience can alone determine; and that this experience will be forthcoming is assured by the trials which modern surgeons do not hesitate to make of every promising novel operation. Before undertaking it, they should, however, consider the risks from embolism, since Dr. Maclean states, in the *British Medical Journal* for May 9, 1885, in connection with the case of Mr. Moore, that, "in the fresh preparation innumerable clots, of varying consistence, were hanging from the wires, ready to drop into the blood; and emboli, exactly like them, were visible in the arteries of the organs, carefully dissected to show them."

THE TREATMENT OF OBESITY.

There can be no doubt that if an efficient, and at the same time, harmless treatment of obesity could be attained, it would be very popular with those afflicted with the tendency to over-accumulation of fat, not only because of the personal deformity which would thus be avoided, but also on account of the increased ease with which the individual thus relieved would perform his role in life as a worker and bread winner. Further, the frequency with which physicians are often asked for a remedy for this condition makes it a matter of importance to them from a practical point of view. Hence, we know our readers will be interested in the discussion of this subject which took place in the Congress for Internal Medicine, recently sitting at Weisbaden.

Prof. Ebstein, who read the introductory paper, very sensibly said, first, that no treatment dare be considered rational which results in inanition or a conspicuous destruction of other tissues than adipose. Further conditions of such treatment are that it shall be easily carried out, and that it shall involve no useless inconvenience or great sacrifices in the life of the patient.

It is also evident that the method of treatment may be based upon the withdrawal of certain articles of food, upon regulation of habits of life, or both. In point of fact, all methods heretofore adopted have aimed to restrict the excessive use of certain articles of food, as albumen, fat, and carbohydrates, which modern physiology teaches are the most important alimentary principles concerned in the formation of fat. A proper nutrition does not permit the withdrawal of albumen, but it is possible to place the fats and carbohydrates in such relation as to prevent an undue accumulation of body fat. Ebstein's method does not interfere with the ingestion of albuminous food, and may be said to be characterized by a more liberal allowance of fats, although he also restricts these somewhat, and protests against his system being called a "fat cure" in the sense that it is a cure by the use of fats. He claims that by permitting the ingestion of a moderate amount of fat, hunger and thirst are diminished and a reduction in the over-ingestion of food rendered more easy. The hydrocarbons on the other hand, of which sugars and starches are the type, are decidedly restricted.

A second characteristic feature of Ebstein's method is a limitation of liquids ingested, a part of the treatment which, as has been said, is facilitated by per-

mitting the use of a moderate amount of fat. This is supplemented by measures which secure an increased loss of water by sweating, such as forced muscular exercise, or suitable baths. Drugs are to be avoided, while the natural mineral waters, especially those containing a large amount of sodium sulphate, as Carlsbad, and Marienbad, so much vaunted for this purpose, are useless.

Ebstein objects to the method of Banting, which restricts the patient to an almost pure albuminous diet, because, although it accomplishes its object in removing excessive fat, it is not without danger. Oertel's method, through deprivation of water, is also efficient, but on account of the discomfort produced by the extreme thirst, is not well borne.

In the discussion which followed the reading of the paper, it was evident that all were not in accord with Ebstein. Thus, Henneberg, of Göttingen, the co-referee, who adduced a large number of facts based on the fattening of animals, said it was the universal testimony of farmers that the free use of water operates unfavorably on the fattening of animals. He also adduced the important fact, which should not be lost sight of in any system, that animals, once fattened, do not lose flesh even when the quantity of food is considerably cut down, provided they are kept at rest. Active exercise, however, rapidly reduces their fat. In the fattening of animals all the three foods—albuminous, fatty, carbohydrates—contribute, and food poor in fats is still efficient in fattening when it is supplied in abundance. Experiment also showed that in the case of herbivora, given quantities of carbohydrates produce more adipose tissue than equal amounts of fatty foods.

Bauer, of Münich, agreed with Ebstein in that the true Banting system might be harmful, but thought with Voit, that a modification of this system by which a limited amount of non-nitrogenous food is permitted, could be applied with efficiency and without disadvantage.

Zuntz, of Berlin, saw no good reason why Ebstein should distinguish between fats and carbohydrates. He thought the indication was simply to cut off the fat-producing foods, and it mattered not how it was accomplished. In the matter of diminishing the ingestion of water, he made the important point that it makes a difference whether the kidneys and organs of circulation are normal or not. In heart and renal disease, it is difficult for the system to work off any excess of water which is, therefore, disposed to accumulate. So, too, Zuntz has found that the addition of a saline solution to the food facilitates the taking up of oxygen, and the excretion of carbonic acid—ten to fifteen per cent.—and the combustion of fat must evidently be influenced thereby.

Unna, of Hamburg, said that as there is a difference in the conditions of deposit of muscular fat, subcutaneous fat, and visceral fat, any system of treatment which is not based on this fact is erroneous. He does not tell us, however, what the differences in these conditions are.

Baelz, of Tokio, remarked that, in Japan, obesity is extremely rare among the laboring classes, who live exclusively upon vegetables, which is perhaps ascribable to the fact that the Japanese consume very little water and almost no alcohol.

While it is evident from the above that there is no clear cut road for the removal of obesity, we think we may take courage to advise, with some hopefulness, those who may consult us on this subject. It is evident, moreover, that we must avail ourselves of one or more of the means to this end, according to the circumstances of the case. We would remind our readers, however, that the idea of active exercise must never be lost sight of, and that more can be accomplished by combining it with a moderate restriction of the fat-producing foods than by their total elimination unaccompanied by measures which favor the combustion of the elements of fat.

THE EPIDEMIC AT PLYMOUTH.

That the epidemic at Plymouth, Pennsylvania, which is still prevailing in a mitigated form, is one of typhoid fever there seems no longer any reasonable doubt. If any previously existed, it is removed by the supplemental paper by Dr. Taylor, published in the current issue of The News, the careful perusal of which will well repay our readers.

It only remains to point a moral from the sad narrative We are forced to admit, from a study of the facts, that a stream may be contaminated by the undisinfected discharges from a single case of typhoid fever, and the mischief which may result from such contamination is immeasurable. The lesson to be learned is, that if we would successfully avert such mischief, it is imperative that every evacuation from a typhoid fever patient be thoroughly disinfected before it is thrown away. In no other way can drinking water be certainly protected from contamination. It is important, too, that care should be taken to throw the dejecta where they will not drain into wells or streams, the water from which is used for drinking purposes. To do this, in every instance, is, perhaps, possible. Hence, the previous injunction, which, if successfully carried out, must secure exemption.

But any one who has had experience with the treatment of the sick among the poorer and middle classes, knows how difficult it is to carry out orders with regard to the management of dejecta. And even physicians are sometimes strangely indifferent to its importance. Hence, it behooves the authorities of towns and municipalities to add their efforts towards preserving the purity of the drinking water.

Every precaution should be taken to keep the sources of the supply absolutely free from contamination by drainage. The fact that a city wherein no such provision is made has been exempt from epidemics for years is no guarantee that such exemption will continue. It is to be remembered that sewage contamination alone is not sufficient to cause typhoid fever. It must be sewage containing the germs of typhoid fever, which, whatever its exact nature, seems capable of multiplying itself indefinitely. Moreover, the distance of the point whence the water-supply is taken, from the possible source of contamination, is no protection.

The City of Philadelphia has been none too soon in providing the "intercepting sewer," by which the drainage of Manayunk and the Falls village is to be carried to a point below the dam at Fairmount, at which the water is taken for the city's supply. The recent experience at Plymouth may well serve as an incentive to redoubled energy in completing this public work, the importance of which cannot be measured by its cost. With the knowledge we now have of its etiology, we ought to be able to stamp out typhoid fever as we ought to be able to stamp out smallpox, and the day will come when both of these desirable events will have been accomplished.

OSPHRESIOLOGY.

DOCTOR MONIN, Secretary of the French Society of Hygiene, has recently written a monograph upon the odors of the human body. The Society of Medicine of Paris has given him its triennial prize for this work. The subjects successively treated in it are the odor of the skin and its appendages, the odor of the breath, of expectorations, of vomited matters, and of eructations, of feces and intestinal gases, of the urine, of the female genital organs, and of suppuration and gangrene.

Various pathological conditions are indicated by the odor of the skin, or of its perspiration, and by that of the breath. For example, the skin has an ammoniacal odor in cholera, and in dysentery the perspiration has the odor of the anal dejections; in hysteria the hair has the odor of ozone. In diabetes the breath has a sourish odor; if this odor be slight, it is due to aldehyde, but, when more marked, it is due to acetonæmia; a garlic odor of the breath in infants indicates intestinal worms, and upon this indication alone anthelmintics may be given.

Of course, the detection of faint odors will depend upon the olfactory power of the individual, and one may be able to perceive distinctly that which another fails to recognize, for doubtless there are just as great variations in the sense concerned as have been shown to exist in the sense of hearing, or in that of seeing. It is probable that science, which has done such marvels in making the unseen seen, so vastly increasing the size of an object of research, will one day find means to make odors more distinct, and thus assist professional investigation.

THE OBSTINATE VOMITING OF PREGNANCY.

CHARPENTIER contributes to the June number of the *Archives de Tocologie* an interesting article upon the obstinate vomiting of pregnancy. The purpose of the article is to show that in some cases of obstinate vomiting, the cause is not in the pregnant condition. In one of several cases narrated by him it was the manifestation of a general infection due to absorption of septic products contained in an abscess. In another patient, who was hysterical, the vomiting was caused from her being addicted to morphine; she was cured by change of place, and by hypodermatic injections of water. In a third, the cause of the disorder was tuberculous meningitis.

Charpentier very justly teaches that we ought not, in all cases, to attribute obstinate vomiting to the pregnant condition; in some it is necessary to seek behind the pregnancy another etiological factor, a factor which will often be found in a local, or general malady.

SOCIETY PROCEEDINGS.

MASSACHUSETTS MEDICAL SOCIETY.

One Hundred and Fourth Annual Meeting, held at Boston, June 9 and 10, 1885.

(Specially reported for THE MEDICAL NEWS.)

TUESDAY, JUNE 9TH.—FIRST DAY.

DURING the forenoon the members of the Society made the usual visits to the Massachusetts General, City, and Children's Hospitals.

At the General Hospital Dr. J. Collins Warren performed an amputation of the thigh, and showed numerous interesting cases in the wards which were being dressed with sterilized cotton.

At the Children's Hospital Dr. A. T. Cabot performed MacEwen's operation of osteotomy of the femur for knock-knee, and showed a case in which after trephining a child six years of age, who had previously had from six to twenty convulsions daily, remained free from them.

DR. H. C. HAVEN also showed a very interesting and obscure cure of abdominal tumor in a boy of nine years.

At the City Hospital visits were made to the surgical wards, and numerous cases in the service of Dr. E. D. Homans were shown, in which the good results of thorough antisepsis were made apparent. A hæmatocele had healed by first intention after being thoroughly curetted, and a similar result had been obtained with a chronic lumbar abscess. Two cases of strangulated hernia, successfully operated upon by Dr. Wm. P. Bolles were shown, and there were several interesting operations, among them were two for cataract, by Dr. H. W. Williams, and a plastic of the nose, by Dr. Geo. W. Gay.

At 12 o'clock the members met in Huntington Hall, and listened to the following interesting papers:

Pathogenesis of Certain Affections of the Skin, by George N. Tilden, M.D., of Boston.

Consanguineous Marriage: Their Effect upon Offspring, by Charles F. Withington, M.D., of Roxbury.

Labor Complicated with Fibroids, by James R. Chadwick, M.D., of Boston.

The meeting then adjourned until 3 o'clock.

At 3 o'clock the members again met in Huntington Hall, and listened to papers on *The Climatic Treatment of Phthisis*, by Harold Williams, M.D., of Boston.

How a Lesion of the Brain Results in that Disturbance of Consciousness Known as Aphasia, by Morton H. Prince, M.D., of Boston.

The Relation of Insanity to Certain Nervous Affections, by Henry R. Stedman, M.D., of Roslindale.

WEDNESDAY, JUNE 10TH.—SECOND DAY.

The following were elected

OFFICERS FOR THE ENSUING YEAR:

President.—Charles D. Homans, M.D., of Boston.

Vice-President.—George N. Munsell, M.D., of Harwich.

Treasurer.—Frank W. Draper, M.D., of Boston.

Corresponding Secretary.—Charles M. Swan, M.D., of Boston.

Recording Secretary.—Francis W. Goss, M.D., of Roxbury.

Orator.—Richard M. Hodges, M.D., of Boston.

During the day, as upon the preceding day, there was an exhibition of electrical and new and original apparatus in the Technology Building. The apparatus used by Dr. J. Collins Warren for the sterilization of cotton was shown, and Dr. Vincent Y. Bowditch exhibited and demonstrated the use of the pneumatic aspirator devised by Dr. Herbert F. Williams, of Brooklyn, N. Y.

The business meeting was called to order at Huntington Hall at 9 o'clock in the morning, by the PRESIDENT, CHARLES D. HOMANS, M.D.

The reports of the Recording Secretary, Francis W. Goss, and the Treasurer, Dr. Draper, were presented.

At the last annual meeting a resolution offered by Dr. Asa Mullet, providing for more stringent relations regarding the

ADMISSION OF CANDIDATES

to the Society, was submitted to the consideration of a committee. Yesterday the committee reported adversely on the adoption of the resolution, and the report was adopted without debate.

A series of resolutions which have been adopted by superintendents of the various American institutions for the insane, petitioning Congress to pass a law prohibiting the

EMIGRATION OF THE DEFECTIVE CLASSES,

were adopted. The resolution set forth that while those persons who have emigrated to this country since 1847 compose with their descendants but one-eighth of the population, they furnish one-third of the paupers, one-third of the criminals, and one-third of the insane.

DR. JOHN O. MARBLE, of Worcester, then read a paper on

CREMATION IN ITS SANITARY ASPECT.

He urged the necessity of the universal adoption of cremation, and proved its superiority over all other methods of disposing of the dead, by a clear exposition of the great evils attendant upon them, referring of course particularly to the ordinary method of graveyard interment.

DR. WILLIAM L. RICHARDSON, of Boston, read a paper on the

DIAGNOSIS AND TREATMENT OF OCCIPITO-POSTERIOR POSITIONS.

He dwelt upon the great value of external palpation in the diagnosis of fœtal positions, and briefly described the method. He then described his method of flexing an extended head, by applying the forceps inverted.

DR. JOHN HOMANS, of Boston, then read a paper upon

THE INFLUENCE OF OVARIOTOMY ON SURGERY,

which was of great interest. He traced the progress which has been made in ovariotomy since it was first practised in 1809, and showed how out of it so many, if not nearly all, of the valuable abdominal operations of modern surgery had grown. He also spoke of the comparative innocuousness of simple abdominal incision the future which may be in store for it as a diagnostic and therapeutic measure.

DR. FRANKLIN K. PADDOCK, of Pittsfield, at 12 o'clock delivered

THE ANNUAL DISCOURSE.

He gave an interesting review of the history of wound treatment, and a clear concise description of the modern antiseptic method. He said, that although known to those of the members who had favorable opportunities of becoming familiar with and practising it, there are many members who do not make use of the antiseptic method, and perhaps even a few still who regard it with scepticism. He therefore felt called upon on this fitting occasion to urge upon the members the necessity and duty of adopting it.

A vote of thanks was given the speaker, after which the Fellows of the Society called in order of seniority, and headed by President Homans, marched to

THE DINNER.

MEDICAL SOCIETY OF NEW JERSEY.

One Hundred and Ninetieth Annual Meeting, held at Long Branch, June 9 and 10, 1885.

(Specially reported for THE MEDICAL NEWS.)

TUESDAY, JUNE 9TH.—FIRST DAY.

The Society met in the dining-room of the Ocean House and there were one hundred and twenty-five members present, all the district societies being represented. There were also present Dr. Beckwith, delegate from the Medical Society of Connecticut, Dr. Anita E. Tyng, from the Medical Society of Rhode Island, Drs. E. S. F. Arnold, John P. Garrish, from the New York State Medical Association, Drs. W. R. Hoch, Albert Fricke, M. P. Hara, from the Medical Society of Pennsylvania.

DR. S. H. HUNT, as Chairman of the Committee of Arrangements, extended a cordial welcome to the members to Long Branch. He extolled the attractions of Long Branch and spoke enthusiastically of the new and successful winter resort.

DR. BUSBY, delegate to the Pennsylvania Medical Society, and DR. J. N. QUINBY, delegate to the American Medical Association, read their reports.

The Committee on Ethics reported no business.

The following committees were appointed:

Committee on Treasurer's Accounts.—Drs. J. G. Ryan, E. A. Marsh, D. C. English.

Nominating Committee.—Drs. Jas. S. Green, Chairman; E. North, D. A. Currie, Jos. Parrish, E. L. B. Godfrey, G. G. Carroll, W. F. Newell, Jos. Fewsmith, Jr., Geo. C. Laws, J. Paul, W. S. Creveling, J. L. Bodine, A. V. N. Baldwin, H. G. Norton, J. G. Rynson, R. L. Disbrow, W. K. Newton, L. W. Reed, C. R. P. Fisher, Douglas I. S. Clark.

Society adjourned until 7.30 P.M.

EVENING SESSION.

VICE PRESIDENT, DR. PARRISH, announced as the first order of business

THE ANNUAL ADDRESS,

by the PRESIDENT, DR. P. C. BARKER, of Morristown. His subject was, the *Present Status of the Germ Theory of Diseases.*

The address was a careful digest of our knowledge on this subject at the present time. He spoke of it as the Romance of Medicine, traced the origin of sanitary science, its progress and the many effects its development has had on our civilization. He pictured the condition of England during the visits of the plague, and the effect upon the world's history caused by epidemics. He then gave a succinct history of the origin and development of the theory. The first steps were taken when chemists commenced the study of ferments and fermentations. These phenomena suggested similar causes for disease to Boyle two hundred years ago. Then came the study of the causes of putrefaction and the experiments of Pasteur and Schroeder, and later, the discovery of the rods of splenic fever by Rayer and Davaine. After this came Lister and his wonderful revolution in surgery and surgical dressings. He then described minutely the different processes of liquid and dry cultivations, and the laws of life and conditions that are favorable or unfavorable to the various microorganisms. He used Colui's classification in describing these minute organisms, detailed the manner and means for examining microscopically and the effects of reagents. He further discussed the bacilli of cholera and tuberculosis, and Drs. Koch's and Ferrán's researches in cultivating and inoculating, respectively. He then gave a *résumé* of the logical deduction from this theory, and the lessons taught by recent epidemics and urged by sanitary science for the prevention of these diseases.

THE ANNUAL REPORT OF THE STANDING COMMITTEE

was then read by its Chairman, DR. T. J. SMITH. This report embodied those of the different medical societies in the State, and recorded the diseases which had prevailed in the several districts, and whatever was of interest to the profession in their various neighborhoods.

The report of the Treasurer, Dr. Phillips, was read and referred to the Committee on Treasurer's Accounts.

The report on *Medical Jurisprudence* was read by Dr. Godfrey, Chairman of the Committee.

THE REPORT OF THE CORRESPONDING SECRETARY,

DR. ELMER J. NEWTON, included the answers of the various county societies to the circular of the State Society regarding preliminary education. All approved the proposed change in the by-laws requiring a certain standard of education preliminary to beginning the study of medicine, and many societies indicated that they had already instituted such regulations in their respective counties.

WEDNESDAY, JUNE 10TH.—SECOND DAY.

MORNING SESSION.

DR. JOHN W. WARD, of the Trenton Asylum, read a paper on

GENERAL PARESIS.

This disease has obtained comparatively recent recognition, and the general practitioner is urged to, if possible, recognize the disease in its incipiency, because it presents a much more favorable chance for benefit from treatment. Although written of as early as the seventeenth century, it was not believed to be a disease *per se*, but a complication of insanity. Statistics show that the disease is on the increase.

It is divided into three stages: 1st, that of fibrillar tremblings; 2d, muscular incoördination and mental enfeeblement; 3d, advanced paresis and entire paralysis with complete loss of mind. The disease is first detected by the commission of some actions much at variance with the patient's character. Then the motor symptoms show themselves unmistakably, and advance step by step with the mental symptoms. The writer considers the disorder is always preceded by a period of melancholia. The first stage is marked by an inability to coördinate the movements of the tongue and slight loss of consciousness, with unusual acts of absentmindedness. The second stage is simply an exaggeration of the first. Ideas of an exalted and extravagant character supervene, and these delusions are characteristic. The mental symptoms may have an almost entire cessation for a short period, but the motor manifestations do not remit, and the general health is not much deteriorated. The third stage is usually ushered in by one or more epileptiform seizures, and a depreciation of the general condition commences, which is progressive in character, and accompanied by a loss of coördination and an absolute loss of mind. Treatment, if ever beneficial, may be so in the beginning of the first stage. The disease is to be differentiated from muscular atrophy, lead poisoning, mercurial poisoning, and locomotor ataxia. These diseases have characteristics which render them not likely to be mistaken. It is usually confined to middle life, more common in men than women and is probably not hereditary. Sexual excess is probably an important etiological factor, although writers are not agreed as to its influence. Some cases show meningeal thickening and adhesions to the skull, others show changes in the gray matter of the brain and the medulla oblongata and upper part of the spinal cord, but there are no characteristic pathological changes.

The prognosis is uniformly bad, as no authentic cases of recovery can be cited. The average duration of the disease is about three years from the time of observance of the first symptoms, but death usually occurs from some intercurrent disease. Treatment has thus far availed nothing. The administration of the bromides as the indications demand, is probably the best. The author has given ergotine a trial with no satisfactory results.

DR. JAMES, the appointed essayist, was prevented from being present at the meeting on account of serious illness. It was voted that he be requested to place a copy of his paper, *Toleration in Medicine*, in the hands of the proper committee for publication in the *Transactions*.

THE JUDICIAL COMMITTEE

recommended that the circular in regard to membership of the American Medical Association, be published in the *Transactions*, also, that the proposed "Act to Establish State Board of Medical Examiners and Licensers," received from the American Medical Association, be referred to the Committee on Education, and that in reference to the communication from the Nebraska Society, the Corresponding Secretary reply that the exchange of reports would seem to cover the objects sought by the scheme proposed. The report was, on motion, adopted.

THE COMMITTEE ON EDUCATION

made an exhaustive report as to "what is feasible to test the competency of graduates of various medical colleges, who hereafter seek to settle in this State," ending with the following propositions:

1. That the power of licensure to the practice of physic and surgery in this State ought to be separated from the function of teaching, and be invested in some authority within the State.

2. That, in the opinion of this Society, the Governor of the State is the proper authority in whom this power should be invested.

3. That in order that this power may be intelligently exercised, all persons whatever seeking to practise physic and surgery in this State, before licensure by the Governor, ought to be thoroughly, carefully, and impartially examined by a competent medical board, who should require the usual evidences demanded by colleges of the first class, of previous study, etc.

4. That it is the opinion of this Society that the board of examiners should be composed of seven of the members of the Medical Society of New Jersey, who have been in practice not less than five years and have received the degree of Doctor of Medicine, selected by the Governor from a list of twelve persons nominated by the said Medical Society.

5. If the appointment of such a board be not feasible, this Society will not disapprove of the formation of two boards appointed from the two Medical Societies of the State, providing that the qualifications in Article III. be required of every applicant.

6. This Society does not approve of a mixed board of persons holding antagonistic theories of medicine, etc.

7. That this Society does not deem it expedient for this Society, in its corporate capacity, to make application to the Legislature of the State for an amendment to its Act of incorporation to accomplish the object contemplated, but would respectfully recommend the State Board of Health to take measures to bring the subject to the consideration of the Legislature. Action on this report was postponed one year.

THE STANDING COMMITTEE

reported the following amendment to By-Law, Chapter III.

Board of Examiners.

Sec. 1.—The Standing Committee shall appoint at the Annual Meeting each year two Boards of Examiners, one for the Northern and one for the Southern District of the State. Each Board shall consist of five members to be selected from among the members of the district societies of the respective portion of the State.

Sec. 2.—The Northern District shall comprise the counties of Bergen, Passaic, Sussex, Warren, Morris, Essex, Hunterdon, Hudson, Union, and Middlesex. The Southern District, the counties of Monmouth, Mercer, Ocean, Burlington, Camden, Gloucester, Atlantic, Salem, Cumberland, and Cape May.

Sec. 3.—It shall be the duty of the Board to examine the credentials and qualifications of all persons contemplating the study of medicine in the State. Every applicant shall be required to present to the Board a diploma from some reputable college, or a certificate of a completed course of study in a reputable school where the following branches of learning and science have been taught, viz., English language and literature, and history. Mathematics including arithemetic, algebra, and geometry. Latin language, including its grammar, and ability to translate with facility the books of the Commentaries of Cæsar, the Orations of Cicero, and two books of Æneid of Virgil. Greek language, including its grammar, the Anabasis of Xenophon, and two books of the Iliad of Homer. Intellectual and moral philosophy, logic, rhetoric, descriptive and physical geography, and the elements of physics, chemistry, and natural history, including botany and zoölogy. In case the applicant possesses no such diploma or certificate, the Board shall proceed to examine him in these branches. The Board shall also require evidence of certificate or otherwise as to the moral character of all applicants. If the examination is satisfactory, a certificate shall be given by the Board to the applicant, commending him as a suitably qualified person to be received under the care of a physician for medical instruction.

Sec. 4.—The Boards shall meet on the first Tuesday in March and September of each year, the Northern Board in Newark and the Southern Board in Camden.

Sec. 5.—An allowance of ten dollars per day, when in session, shall be paid by the Treasurer of the Society on the order of the President of the Board to each member of the Board for his services.

Sec. 6.—These Boards shall report through their Presidents to the Standing Committee each year, at least one week prior to the annual meeting, giving the number of days in session, the number of applicants examined, and the results of the examinations.

Sec. 7.—Each district society shall provide in its by-laws that its members obligate themselves, under penalty

of forfeiture of membership, to receive no person under their care as a student of medicine who has not passed the necessary examination, and received the approval of one of the Boards of Examiners of this Society.

Sec. 8.—Any member of a district society may, however, receive a student of medicine during the interim of the meetings of the Board, provided that he notify the President of the Board of Examiners for his district that he has received such student. But all students so received shall appear before the Boards of Examiners at their first meeting thereafter, and obtain the certificate required.

On motion, the report was received and referred to the next annual meeting.

THE COMMITTEE ON TREASURER'S ACCOUNTS

reported that they had examined the said accounts, and found them correct, as follows:

Receipts for 1883	$262.19
From district societies	1124 00
Interest on U. S. bonds	62.00
	1448.19
Disbursements paid as per vouchers	614.77
Balance,	$833.42

The Committee further stated that the Treasurer reports:

U. S. 4 per cent. registered bonds at par value	$1550.00
Amount in Newark Savings Bank	182.85
Total,	$1732.85

The Committee recommend: 1. That the Treasurer be instructed to purchase for the Society, out of the funds in his hands, one $500 U. S. 4 per cent. registered bond, and that he shall present all the assets in his possession for examination at each annual meeting. 2. That the Treasurer be instructed to renew his bond for five thousand dollars. 3. That the assessment of the district societies be $1.50 per capita.

The report was adopted.

DR. WICKES on behalf of the Committee on

REVISION OF THE BY-LAWS,

read its report.

The report was adopted and the Committee instructed to have 1000 copies printed in pamphlet form.

The Business Committee gave as the

SUBJECT FOR DISCUSSION

at the next annual meeting, *The Therapeutical Action of Hydrochlorate of Cocaine.*

THE NOMINATING COMMITTEE

presented the following report:

President.—Joseph Parrish, M.D., of Burlington.

Vice-Presidents.—Charles J. Kipp, M.D., of Newark; John W. Ward, M.D., of Trenton; H. Genet Taylor, M.D., of Camden.

Corresponding Secretary.—Wm. Elmer, Jr., M.D., of Trenton.

Recording Secretary.—Wm. Pierson, M.D., of Orange.

Treasurer.—W. W. L. Phillips, M.D., of Trenton.

Standing Committee.—T. J. Smith, M.D., E. J. Marsh, M.D., D. C. English, M.D.,

The Committee recommended that the *Next Annual Meeting* of the Society be held at Spring Lake, Monmouth Co., on the second Tuesday of June, 1886.

The report was adopted.

The Society adjourned to meet at Spring Lake on the second Tuesday in June, 1886.

MAINE MEDICAL ASSOCIATION.

Thirty-third Annual Meeting, held at Portland, June 9, 10, and 11, 1885.

(Specially reported for THE MEDICAL NEWS.)

TUESDAY, JUNE 9TH.—FIRST DAY.

MORNING SESSION.

THE Association met at 10 o'clock, in the Common Council Chambers, City Building, and was called to order by the PRESIDENT, DR. T. A. FOSTER, of Portland.

THE TREASURER'S REPORT.

DR. A. S. THAYER reported on hand at last annual report $618.47. The receipts from new members, annual tax, sale of *Transactions*, and dividends increase this to $1166.12. Cash has been paid out for necessary expenses $448.78, leaving in the hands of Treasurer, $717.34.

COMMUNICATIONS

relative to the immigration of the defective classes, from the President of the American Association of Insane Hospital Superintendents, and one on preliminary education for medical students, from the New Jersey Medical Association, were referred to the Board of Censors.

A letter from the Nebraska Medical Society, relating to a system of interstate medical society representation, was referred to a committee of three for a report at the session of 1886.

A committee consisting of Drs. A. T. Fuller, of Bath, J. B. Walker, of Thomaston, and Sumner Laughton, of Bangor, was appointed to visit

THE MAINE INSANE HOSPITAL

on behalf of the Association.

DR. A. T. FULLER, of Bath, presented the

REPORT OF VISITORS TO MEDICAL SCHOOL OF MAINE.

They stated that their visits to the School during the past term had been frequent and thorough. No criticism could be made upon the instruction afforded or the scholarship of the graduating class. The new plan of formal graduating exercises was commended. The committee expressed itself as opposed to the plan of yearly examinations now in vogue.

DR. CHAS. R. CRANDALL, of Portland, read a paper on

ABDOMINAL SURGERY: ITS GROWTH AND TRIUMPHS.

DR. S. C. GORDON, in the discussion following this paper, reported a case of hemorrhage from the kidney consequent upon injury. The patient, while working beneath a car, suddenly straightened up and struck his back, over the left kidney, against a projecting bolt. This was followed by severe pain and free hemorrhage, and the expulsion of clots evidently from the ureters, often ten and twelve inches in length. Several of these clots were declared, by certain botanic practitioners who

attended him, to be "palisade worms" of the kidney. He gradually recovered in part, and has for the past year and a half been subject to repeated hemorrhages, often to the amount of a quart at a time. Life has become a burden to him, and he is ready for anything that promises relief. He proposed to make nephrectomy through an abdominal incision, and considered this a favorable case for such operation.

Dr. S. H. Weeks would operate by lumbar incision along the lower border of the last rib, four or five inches forward, as in Bryant's operation, if the operation were for other than cystic disease; in that case, he would use laparotomy.

Afternoon Session

Dr. T. A. Foster, of Portland, delivered the

president's address,

in which he outlined the growth of the Association, and defined its relations with other organizations. An organization like this is like an individual: its separate members, its tissues, which through segregation form the organs through which its various functions are manifested. It has its emotions and passions to be checked, its reasons and judgments to be tempered with justice, its ossified or crystallized ideas to be melted in the crucible of liberal investigation, its hereditary superstitions to be swept away by a more common-sense view of things; it has also its element of passiveness, its tendency to inactivity, its lack of self-respect. Unless the proper adjustment of its internal relations is maintained, it will be difficult to attend to the adjustment of its external relations. The relations of the Society and its members to other societies, trades, and professions, were shown by carefully arranged tables; one of these gave the name, residence, and school of practice, and classification into counties. In Maine there are 879 recognized physicians, a decrease of 100 in four years. In Cumberland County, the most populous, the ratio of physicians to the public at large is 1 to 585; while in Aroostock County it is 1 to 1263. There are 693 regular physicians in the State; of these 257 are members of this Association. It was recommended that measures be taken to increase the membership.

The speaker considered the relations of the Society to the question of codes and charlatans, which were both best let alone; to the retail druggist, and the profession at large, the institutions for medical instruction, and the legal profession; with regard to the latter, it might be said that in no direction were these of more importance than in the legislative halls. Physicians, as a rule, are poor lobbyists, and numbers of them in a body seem to have a terrifying effect upon legislative committees. More could be accomplished in securing medical legislation by laboring with members at home prior to sessions. A State Board of Health has, after years of struggle, been secured; how long it will require to secure a registration act remains to be seen.

Of the relations of the medical profession to the press, the speaker said: "So far as it touches our profession, it is strongly in favor of irregular practice and quack medicines. Doubtless this results from its adopted rules of action based upon business principles. The community is evidently highly sensational, it demands startling news, it loves humbuggery, and never is so well satisfied as when thoroughly imposed upon. The successful reporter is he who bores the hardest and always brings oil, either from his boring or his imagination. On this rule charlatanry is based, hence the natural sympathy between it and the press. The rule of action of the regular physician is modest and consistent secrecy, and when through the action of the press, or in any other way, this rule is broken, as it was to a marked degree in Garfield's case, and has so recently been to a most mortifying degree in the case of General Grant, we can but feel that a lasting injury, if not disgrace, comes to the profession."

Relations with irregular practitioners are easily enough adjusted; retaliation upon such elevates them to our footing and degrades us to theirs. Relations to the general public may be considered under three heads: with the wealthy, with the honest poor, and with the criminal classes. From the rich we must look for and demand the fullest reward for our services, from the poor be not too eager to exact the pound of flesh. All over the country, the criminal classes are made the special objects of sympathy by an army of so-called philanthropists. Crime is thus cultivated as surely as the farmer cultivates his crops of corn and potatoes, and this mass of criminals are to the body politic what undigested food and effete matter are to the individual. Philanthropy acts as an opiate and the tardy and ineffectual operations of the law is like habitual constipation.

Such seed is sown broadcast and encouraged by the legal marriage of the criminal classes, not only outside but inside of jails, penitentiaries, and workhouses; as an organization, the profession should protest against such proceedings.

In no way should the physician assume the duties of the lawyer in dealing with crime, neither should he act the clergyman in his attempts to prevent sin, but he should be found in the front ranks of true moralists, realizing the fact that vice in all its forms invites disease.

Dr. Jas. A. Spalding, broached a plan for the formation of a

physicians' mutual aid society,

similar to that in operation in New York, and the matter was referred to a special committee, which subsequently reported asking a continuation of the question till next year. It was deferred.

Dr. B. T. Sanborn, Superintendant of the Maine Insane Hospital, read an interesting paper on

acute melancholia.

The conclusion was as to treatment, that diversion and employment afforded the strongest hope of successful treatment.

operation for external urethrotomy.

Dr. E. H. Hill, of Lewiston, detailed a case of operation after removal of an epithelioma of the penis. No meatus could be found. At the peno-scrotal junction, without a guide, the canal was opened, and a grooved staff introduced into the bladder. The tissues were divided from the centre of the perineum forward to the opening with one sweep of the knife. The urethra was dissected and detached from the cavernous bodies, and transversely divided. Its free extremity was brought to

the upper commissure of the perineal wound, and its longitudinal edges stitched to the skin, leaving exposed a urethral opening fully one inch in length. The cavernous bodies were transfixed with a knitting-needle to prevent retraction of the stump, the better to secure any bleeding vessels, and to make two curvilinear incisions, one on each side at the root of the penis, beginning in the median line at about one and a half inches above the pubes and ending a little above the penoscrotal junction, and to sever the organ with scissors. The actual cautery was applied, the fold of skin brought over the stump, united, and a drainage-tube inserted. Catheter was required for only two days. The patient lived a little over a year, and succumbed to a return of the disease.

Dr. S. C. Gordon, of Portland, described

A NEW PERINEAL OPERATION,

having for its object a lessening of the calibre of the vagina, as well as restoration of the perineal body. This was accomplished by making a U-shaped denudation having the perineum for its base, and its arms extending up the sides of the vagina. Then with a single needle armed with No. 1 or No. 2 catgut, beginning at the extremity of one of the arms, the denudation is closed by continuous suture to the base; this is repeated on the other side; finally, the perineal denudation is closed. Thus the vagina is at once shortened and contracted. He would not use wire sutures unless there was extreme uterine retroversion. Then he puts in place a pessary, and makes the operation outside.

Evening Session.

Dr. F. H. Gerrish read a paper on

MORPHINE AS A SUBSTITUTE FOR HANGING, IN THE EXECUTION OF CRIMINALS.

The following resolution was introduced:

"*Resolved*, That in the opinion of the Maine Medical Association, the execution of criminals by hanging should be abolished, and poisoning by the hypodermic injection of morphine substituted therefor."

After a somewhat rambling discussion on the merits of capital punishment, the resolution, which had not been discussed, was laid upon the table.

Dr. I. T. Dana read a paper dealing with

CHRONIC BRIGHT'S DISEASE,

more particularly referring to treatment by fulfilling certain indications: 1. To avert hyperæmia and inflammation of the kidneys. 2. To unload obstructed tubules. 3. To build up the blood and promote nutrition. 4. To improve the condition of the nerve-centres. 5. To promote elimination of urea and other excrementitious elements from the blood. 6. To evacuate dropsical accumulations. 7. To sustain the heart. 8. To relieve distress from dyspnœa.

Wednesday, June 10th.—Second Day.

Morning Session.

Dr. A. S. Thayer reported cases of

ACUTE RHEUMATISM TREATED BY ADMINISTRATION OF SALICIN.

Dr. C. O. Hunt favored topical application of salicylic acid in olive oil, in the proportion of two drachms to an ounce, when the stomach revolted.

Dr. S. P. Warren advocated oil of gaultheria, one-half drachm in water and glycerine every two hours.

Dr. H. F. Twitchell, of Freeport, reported

A CASE OF PLACENTA PRÆVIA CENTRALIS,

arguing as a cause a fall received six weeks after cessation of menstruation.

Prof. Alfred Mitchell, of Brunswick, did not favor the theory of causation. In cases of placenta prævia, he would turn by the bipolar method, and allow nature to complete delivery slowly.

Dr. Boardman, of Boston, said his experience was, that premature labor should be induced and completed without delay. He thought it a great mistake to wait, and had known of six cases of fatal hemorrhage within a short time from mistaken waiting, and relying on stimulation to prepare the patient for the operation. Such surgical obstetrics he did not believe in: while waiting for the woman's strength to return, death comes in its stead.

Dr. E. E. Holt, of Portland, read a paper based upon his first series of

100 CASES OF CATARACT OPERATION.

Special reference was made to causation. The history of the growth of the lens was illustrated by diagrams, and its bearing upon the formation of cataract pointed out. Methods of operating and bandaging were illustrated upon a mask. The discovery of Kohler, in producing anæsthesia by cocaine hydrochlorate, has been of more value to ophthalmology than any other since the invention of the ophthalmoscope.

THE COMMITTEE ON REMOVAL OF THE MAINE MEDICAL SCHOOL

reported that they had conferred with the committee from the Faculty of the School, Alumni Association, and Trustees of Bowdoin College, that the sentiment was favorable, but it would necessarily be referred to the Trustees for further action.

THE COMMITTEE ON INVITATION TO THE AMERICAN MEDICAL ASSOCIATION

to hold the meeting of 1886 in Portland reported that, from inability to raise a sufficient fund to cover estimated expenses it was thought best, after consultation with the President and Chairman of the Censors, to report action inexpedient. The report was accepted.

THE ELECTION OF OFFICERS

resulted as follows:

President.—Sumner Laughton, M.D., of Bangor.

Vice-Presidents.—C. G. Actams, M.D., of Portland; F. E. Hitchcock, M.D., of Rockland.

Permanent Secretary.—Charles D. Smith, M.D., of Portland.

Treasurer.—A. S. Thayer, M.D., of Portland.

Corresponding Secretary.—J. C. Caldwell, M.D., of Buckfield.

Board of Censors.—Geo. H. Cummings, M.D., of Portland; B. F. Sturgis, M.D., of Auburn; E. Adams, M.D., of Litchfield; H. E. Hill, M.D., of Saco; A. L. Hersey, M.D., of Oxford.

Dr. S. H. Weeks made some extended remarks upon the symptoms, diagnosis, and treatment of

FRACTURES OF THE NECK OF THE FEMUR.

Two interesting specimens were exhibited, one of an intracapsular fracture, showing bony union; the other impacted fracture, also intracapsular. In the latter case no symptoms or signs of fracture could be detected for two weeks after the injury, although the subject was a hospital patient and under constant observation. In the discussion, Dr. Oakes, of Auburn, advocated the plaster-of-Paris dressing as valuable in allowing patients to get up from the bed at once and escape the debilitating confinement consequent upon the usual mode of dressing.

Dr. Charles D. Smith, of Portland, exhibited a specimen of comminuted intracapsular fracture extending from behind upward and forward, and involving nearly one-third of the head. This was removed from a man seventy-nine years of age, who died one week after injury, never having rallied from the shock. The injury was received by a fall forward upon all fours, and when seen one hour afterward presented the unusual symptom of *marked inversion* of the foot; the great trochanter formed a prominent protuberance on the front of the thigh; crepitus could not be detected at the post mortem; the capsule was found much lacerated, and pus within and without the joint.

Dr. Allen, of Camden, read a paper on a case of *Displaced Ovary and Phantom Tumor.*

Dr. S. C. Gordon reported

CASES OF TAIT'S OPERATION.

He doubted the ability of any one invariably to detect disease by conjoined touch; in his experience he had always depended upon other symptoms than touch, and his diagnosis had been abundantly proven by other symptoms.

Dr. Boardman thought the value of Tait's operation could not be overestimated; it should, however, be restricted to cases of demonstrable disease, and with this view exploratory incision might be made, and would be perfectly justifiable.

Dr. J. O. Webster, of Augusta, read a paper based upon

HEALTH STATUTES,

passed by the last legislature of Maine. Its conclusions were:

1. A local board of health should be established in every city and town of considerable size.

2. It should be an independent board, not containing any other municipal officers ex-officio, all its members to be elected with sole reference to their fitness for this work.

3. The members of the board, or its executive officer, if it have one, should receive reasonable compensation.

4. Such local health regulations as the board may find necessary, in addition to their powers under the State law, should be adopted as by-laws or ordinances by the town or city.

Evening Session.

Dr. S. H. Weeks, of Portland, delivered

THE ANNUAL ORATION,

an able effort devoted to a *Review of Modern Medicine*, the essentials for success in its practice, and forecasting what remains to be done.

While progress has been made in the pathology and management of most diseases, especially of those affecting the kidneys, heart, and lungs, what marked gain has there been in curing and preventing disease during the present century at all analogous to that discovery by Jenner in the last?

The father of medicine taught that deep-seated cancers have a fatal termination sooner when meddled with than when left to themselves. What better prediction can be made after an experience of two thousand years? One-half the human race continues to die in infancy and early childhood. Phthisis in all nations still destroys one-sixth of all who die. Cholera continues to spread, and yellow fever bids defiance to the resources of medical skill. Diphtheria still desolates the families of rich and poor. Bright's disease and valvular lesions of the heart are still incurable.

General paresis saps mind and life; locomotor ataxia totters and stumbles into the tomb; and typhus and typhoid fevers, measles, and scarlatina run their accustomed course, modified, but not cut short a single hour. And to-day our best medical authorities admit that, while contagious and infectious fevers, and other self-limited diseases, may be watched and guided, they cannot always be cured. It is hoped this will not always remain true.

Medicine can only advance by the education of the profession; the development of a higher standard has and will keep pace with that of every other phase of human life.

A warm tribute was paid to the ability represented by the new State Board of Health, finally obtained after years of labor; and the hope expressed that its efforts, aided by those of this Society, may produce a rich harvest.

At the close of the oration, the members, their ladies, and delegates from other societies, were entertained at a reception given by the retiring President, Dr. T. H. Foster. Members of the Association, and delegates were also entertained by Dr. E. E. Holt, at his residence on Congress street.

Thursday, January 11th.—Third Day.

Closing Session.

Dr. Chas. D. Smith, of Portland; Sumner Laughton, of Bangor; and J. C. Caldwell, of Buckfield, were appointed a committee on

INTERSTATE REPRESENTATION.

Dr. F. H. Gerrish, chairman of committee to obtain a

STATE BOARD OF HEALTH,

reported that a satisfactory law had been passed. The Board organized and work has begun.

The Board is made up of Dr. F. H. Gerrish, of Portland, Chairman; Dr. C. E. Young, of Augusta, Secretary; Dr. J. O. Webster, of Augusta; Dr. O. A. Horr, of Lewiston; Hon. S. J. Young, of Brunswick; Hon. Lewis Barker, of Bangor; E. C. Jordon, Esq., of Portland.

The law establishing this Board has been secured by the efforts of the Maine Medical Association acting alone, with little or no help from the public, and the Committee which, after years of trial and discourage-

ment, have finally accomplished the object, was composed of Drs. F. H. Gerrish, of Portland; S. H. Weeks, of Portland; J. M. Bates, of Yarmouth.

The Committee appointed to consider the

RECOMMENDATIONS OF THE PRESIDENT'S ADDRESS,

reported that, without reference to the indiscriminate refilling of prescriptions by retail druggists, a committee should be appointed to devise some method of prevention, and report in 1886; a recommendation was also made to increase the number of representatives to other State societies as deemed advisable.

A new committee on the

MEDICAL REGISTRATION BILL

was appointed, with Dr. J. M. Bates as Chairman.

The date of the *next annual meeting* was fixed for June 1, 1886, and the place Portland.

LECTURESHIP ON PUBLIC HYGIENE.

Dr. J. O. Webster offered the following resolutions, which were adopted without dissent:

Resolved, That, in the opinion of this Association, a Lectureship on Public Hygiene should be established in the Medical School of Maine, with an annual course of not less than six lectures.

Resolved, That the Secretary send copies of this resolution to the Trustees of Bowdoin College, and the Faculty of the school.

After the usual votes of thanks, the Association adjourned.

CORRESPONDENCE.

THE INTERNATIONAL SANITARY CONFERENCE AT ROME.

Rome, May 30, 1884.

The International Sanitary Conference has now been in session for ten days, and it is evident that notwithstanding the warm weather and the general desire to get away from Rome as soon as possible, there is little prospect of adjournment before the middle of June.

The following countries are represented either by one or more technical delegates, or by a diplomatic delegate, or by both, viz.: Germany, Argentine Republic, Austria, Belgium, Brazil, Chili, China, Denmark, Spain, United States, France, Great Britain, Greece, Guatemala, India, Italy, Japan, Mexico, Holland, Peru, Portugal, Roumania, Russia, Servia, Sweden and Norway, Switzerland, Turkey, and Uraguay.

The names of many of the technical delegates are quite unknown in our country, but the names of a few of those who are most prominent, and who exercise the most influence in the Conference may be mentioned.

It is proper to say first that the Conference was organized by the election of the Italian diplomatic delegate, Cadorna, as President. No vice-presidents were elected, the President being authorized to name a presiding officer for the day in case of his inability to attend the session.

S. Exc. le Chev. Cadorna, President of the Council of State, Minister of State, Senator, etc., is an old gentleman who may be an accomplished diplomat, but who was evidently not equal to the task of directing the discussions of the technical delegates present, and this for several reasons, the principal one being that he does not understand either English or German, and that several of the delegates speak only in one or the other of these languages. Thus the English delegates, with the exception of Dr. Thorne, who speaks French quite fluently, use their own language in addressing the Conference. Dr. Koch and the delegate from Austria, Dr. Hofmann, always speak in German, the Spanish delegate makes flowery speeches in pure Castilian, while one of the Italian delegates makes it a point to address the Conference in his native tongue. With a President who understood only the Italian and the French, the Conference was like a ship at sea without a rudder.

Fortunately this difficulty had been anticipated, and by a preconcerted arrangement a subsection, comprising the technical delegates alone, was at once organized, with the accomplished Dr. Moleschott as president. It would be difficult to find another man equally qualified for the position. Originally from Holland, Dr. Moleschott has been for many years engaged in the practice of medicine in Rome. He is a professor in the University of Rome, a life-senator of Italy, and a man of varied acquirements, scientific and literary. But, above all, he is a polyglot; he understands, and speaks with facility, all of the languages above mentioned; and he has a happy faculty for giving a *résumé* in a few words, in French, which is recognized as the official language of the Conference, of a long-winded address delivered in English, German, Spanish, or Italian. I should say here, that the longest address is limited to ten minutes, in accordance with a resolution introduced by Sir Joseph Fayrer, one of the delegates from India.

Dr. Koch, the delegate from Germany, both on account of his fame, and the respect with which his opinions are received by a majority of the delegates present, is perhaps the most prominent and influential member of the Conference. He has not made any long speeches, and has taken special pains to avoid all reference to his "comma-bacillus," not because he has lost faith in it, but as a matter of prudence. At his suggestion, and by common consent, it was agreed at the outset that all disputed questions relating to etiology should be avoided, and that the Conference should occupy itself entirely with practical questions relating to the prevention of cholera, and thus far all efforts to consider any other disease have failed, and there is a manifest intention on the part of the European delegates to confine the discussions to this disease alone. They intimate that questions relating to yellow fever and other epidemic diseases may be brought up later, if desired, but it is evident that they will not be willing to give any considerable time to their discussion, and that there will be a strong pressure for immediate adjournment as soon as the questions relating to the prevention of cholera have been disposed of.

The delegates from Great Britain are Sir W. G. Hunter, M.D., and Dr. Thorne Thorne, of the Local Government Board. The Indian government is also represented by two delegates, viz., Sir Joseph Fayrer, M.D., and Dr. T. R. Lewis, Surgeon in the English Army and Professor at Netley. The French delegates are Drs. Brouardel, Proust, and Rochard. Russia sends but a single technical delegate, Dr. Eck. From Portugal there is the accomplished Dr. Silva Amado, who was a

delegate to the Sanitary Conference of Washington, in 1881. The Spanish delegate is Dr. Taboada. Turkey is represented by Dr. Zohéros Pacha; Austria, by Prof. Hofmann; Holland, by Dr. Ruysch; Switzerland, by Drs. Sonderegger and Reali; Sweden and Norway, by Drs. Bergman and Dahl; Italy, by Drs. Baccelli, Moleschott, Semmola, and Buonomo.

The first working session of the subsection composed of technical delegates, was held on the afternoon of May 23d, and the ball was opened by the introduction, by the delegate from the United States, of the following proposition:

"Experience has demonstrated that land quarantines and sanitary cordons are impotent to arrest the progress of an epidemic of cholera; they are, therefore, unjustifiable."

After a full discussion, the wording of this proposition was changed, at the suggestion of M. Rochard, as follows:

"Land quarantines and sanitary cordons are useless."

This was adopted by a vote of twenty in the affirmative, against one negative vote, which was cast by the delegate from Turkey.

At the next session the delegate from the United States introduced the following proposition, which gave rise to a protracted discussion upon the subject of maritime quarantine, and developed the views of the leading delegates present upon this important question:

"An arbitrary time quarantine for vessels and persons arriving from cholera-infected ports is not justified by experience, is often attended with great inhumanity, and tends to prevent true sanitary progress."

The debate upon this proposition was renewed at the following session, but was terminated by its withdrawal in favor of a programme introduced by the French delegation, which approached the question in a different way. In withdrawing his proposition the delegate from the United States remarked that he was not disposed to deny the value of a rational quarantine, but that the proposition introduced by him, which had served as the basis of the discussion which had taken place, was in opposition to an "*arbitrary time quarantine for persons and vessels.*"

The programme submitted by M. Brouardel, of the French delegation, was as follows:

Measures to be taken against the propagation of cholera by ships ("*par voie de mer*"):

1st. Importance of the salubrity of ports. Information relating to the sanitary condition of ports of departure (endemic or epidemic diseases).

2d. *Ships at sea* ("*trajet*"). Disinfection on board; independence of physician; isolation of the sick: ports not infected, without sick. Special question, *The Red Sea.*

3d. *Port of entry.* Ships coming from ports not infected, without sick, not to be detained. Ships coming from a suspected port to be inspected, continuation of sanitary measures taken at the point of departure and during journey. Infected ships; debarkation and isolation of the sick and of the passengers; disinfection of vessels; ships transporting merchandise and rags; ships transporting pilgrims and troops. Special measures; return of pilgrims from Mecca; *Caspian Sea.*

This programme having been unanimously adopted as the basis for further discussion, and the importance of maintaining the "salubrity of ports" being admitted unanimously, the question relating to "information relating to the sanitary condition of ports of departure" was taken up. The following proposition, submitted by Dr. Silva Amado, was adopted:

"Consuls should be permitted to obtain information from the local sanitary authorities of ports and cities (*des villes principales*), so that they may be enabled to visé bills of health, and if necessary to give precise information by telegraph to their Governments." The vote upon this proposition was *Yeas*, 10; *Nays*, 2; declined to vote, 8.

As this proposition did not include the right to visit a ship about to sail, and as this was considered a point of extreme importance by the American delegates to the Washington Conference of 1881, the delegate from the United States introduced the following proposition:

"Consuls should be permitted to verify the exact sanitary condition of vessels about to sail for ports in the country which they represent by a personal inspection, or by an inspection made by a physician authorized to represent them." This proposition was made the order of the day for the next session, and upon the reassembling of the Conference was debated at length.

While most of the delegates admitted the propriety of such an inspection being made, there was great opposition to the form of the proposition which made it the duty of *Consuls* to make or cause to be made the inspection contemplated. The delegate from the United States therefore modified the proposition as follows:

"It is desirable that the exact sanitary condition of ships about to sail should be verified by a personal inspection made by a duly authorized agent of the country of destination." The vote upon this proposition was as follows: *Yeas*, United States and Italy, 2; *Nays*, Austria, Denmark, Spain, Japan, Holland, Roumania, Russia, Servia, Sweden, 9. Abstained from voting, Germany, Hungary, Brazil, France, Great Britain, India, Mexico, Portugal, Norway, Switzerland, Turkey, 11.

This vote shows clearly that the opposition which the National Board of Health met with in an attempt to obtain the consent of the various powers to a similar proposition, through their delegates to the Washington Conference, is as strong to-day as it was in 1881.

A vote was next taken upon a proposition, submitted by Dr. Silva Amado, to the effect that "the consul of the country of destination should have the right to *assist* at the sanitary inspection of a vessel destined for his country, made by the local sanitary authorities, in accordance with rules to be established by an international convention." This was passed by a vote of 8 affirmative, against 6 negative, with 8 abstentions. It is evident that a proposition which has received so little support from the technical delegates is not likely to be received with much favor by the diplomats, and will not form part of an international sanitary convention. Indeed there seems to be little prospect at present that the Conference of Rome will be any more successful than was that of Washington, of Vienna, or of Constantinople, in reconciling differences of opinion, and national jealousies and prejudices, to such an extent as to make an international convention practicable

Rome, June 3, 1885.

In my last letter I referred to the disfavor with which the Conference received the proposition of the delegate from the United States, to the effect that the sanitary condition of vessels about to sail should be verified by a personal examination made by an authorized agent of the country to which it is destined. This question has again been brought before the Conference by the report of a special committee, and at last the propriety of such an examination has been recognized by a vote of 20 to 1. The first two paragraphs of the report referred to read as follows:

"1. From a sanitary point of view, it is necessary to distinguish two classes of vessels, those which have a physician on board and those which have not. We consider the latter as little ships (*petits navires*), whatever may be their tonnage or the number of their crew; whether they are propelled by steam or by sails."

"II. The captain of these vessels not provided with a physician—"*petits navires*"—should address himself to the *consul of the country to which his vessel is destined*, in order that his ship may be inspected by a physician before it is loaded, and for an examination of his passengers. This examination is independent of the inspection made by the local sanitary authorities."

The second paragraph above quoted, as reported by the committee, read, "The captain, etc., should address himself to *the consul of his nationality*." The delegate from the United States insisted upon changing this to the consul of the country of destination. This amendment was effected, and the paragraph adopted by a vote of 20 to 1.

At the session of May 27th, the delegate from the United States proposed that a committee should be appointed to consider the question of disinfection. This proposition having been favorably received, the President appointed the following committee: Sternberg (U. S.), Koch (Germany), Proust (France), Thorne Thorne (England), Eck (Russia), Semmola (Italy), and Hofmann (Austria).

At the first meeting of the committee the delegate from the United States, who had been named first by the President, proposed that Dr. Koch should be made the chairman of the committee. This was agreed to, and after several protracted sessions, the following report was unanimously adopted:

The committee recommends as means of disinfection against cholera:

1. Steam at 100° C. (212° Fahr.).
2. Carbolic acid, chloride of lime.
3. Aëration.

Carbolic acid and chloride of lime are to be used in aqueous solution:

Weak Solutions: Carbolic acid, 2 per cent.; chloride of lime, 1 per cent.

Strong Solutions: Carbolic acid, 5 per cent.; chloride of lime, 4 per cent.

These means of disinfection will be applied as follows:

I. For the disinfection of person the weak solutions should be employed.

II. For the disinfection of clothing, bedding (*des linges, des habits, des couvertures*), and other articles of this kind:

(*a*) destruction; (*b*) steam passed through the articles for one hour; (*c*) boiling for thirty minutes; (*d*) immersion for twenty-four hours in one of the weak disinfecting solutions; (*e*) aëration for three or four weeks, but only in case the other means recommended are inapplicable.

Articles of leather, such as trunks, boots, etc., should be either destroyed or washed several times with one of the weak disinfecting solutions.

III. Vomited matters and the dejections of the sick should be mixed with one of the strong disinfecting solutions, in quantity at least equal to the amount of material to be disinfected. Linen, clothing, bedding, etc., recently soiled by the dejections of the sick, which cannot be immediately subjected to the action of steam, should be at once immersed in one of the strong disinfecting solutions, and left for four hours.

IV. The dead should be enveloped in a sheet saturated with one of the strong disinfecting solutions, without previous washing of the body, and at once placed in a coffin.

V. Disinfection of merchandise and of the mails is unnecessary (steam under pressure is the only reliable agent for the disinfection of rags—*les chiffons en gros*).

VI. When cases of cholera occur upon a vessel at sea, the locality where the case occurs should be disinfected. The floors and walls of the cabin, or other locality, should be washed at least twice with one of the weak disinfecting solutions, and then exposed freely to fresh air.

In the case of objects of considerable value, which have not been in immediate contact with the sick, and which would be seriously injured by a rigorous disinfection, the physician on board may determine what measures are necessary to protect the sanitary interests of the vessel.

The bilge-water should be pumped out, and replaced by sea-water, at least twice at each disinfection of a vessel.

The *closets* should be well washed with one of the strong disinfecting solutions at least twice a day.

VII. If the drinking-water is open to suspicion, it should be boiled before it is used, and the boiling should be repeated, if it is not used, within twenty-four hours.

All suspected food should be destroyed, or at least recently cooked.

VIII. Hospitals should be disinfected by washing the floors and walls with one of the weak disinfecting solutions, by a subsequent free ventilation and cleansing, and finally by repainting. The wards to be disinfected should, as far as possible, be isolated from those in use.

The latrines should be disinfected at least twice a day by pouring into them the strong disinfecting solutions in quantity at least equal to the amount of the dejections received since the last disinfection.

IX. The clothing worn by physicians and attendants should remain in the hospital, and should be regularly disinfected.

Physicians and attendants should use the weak disinfecting solutions for washing their hands, etc.

When this report was submitted to the Conference there was some disposition to object to the limited number of chemical disinfectants recommended. Dr. Koch explained that it had been thought best to limit the recommendation to two of the most generally useful chemical agents, with the full understanding, how-

ever, that the list of reliable disinfectants could have been extended, and that other agents, such as mercuric chloride, were valuable under certain circumstances. He hesitated to recommend mercuric chloride, because of the danger attending its general use, and also because its disinfecting action was, to some extent, interfered with by the fact that it entered into combination with albuminous material, and thus failed to come in contact with germs enclosed in albuminous masses.

The delegate from the United States remarked that he had not come to the Conference prepared to endorse carbolic acid in preference to mercuric chloride, but that he was in full accord with the other members of the Committee on Disinfectants, as to the propriety of limiting the recommendations to two chemical agents, and that he had accepted carbolic acid as one of these upon the high authority of Dr. Koch, who, from recent experiments, was convinced that for disinfecting the dejections of cholera patients, this was one of the most reliable agents, and that in the proportion of five per cent. it could be safely recommended for this purpose. Dr. Sternberg acceded the more readily to this, inasmuch as Dr. Koch, upon the strength of experiments recently made in the United States, made no objection to placing chloride of lime beside the disinfectant which his own recent experiments had induced him to consider with especial favor. As to mercuric chloride, the delegate from the United States remarked that he considered the danger attending its use to be greatly exaggerated, and that he should continue to recommend it for certain purposes, and especially for washing surfaces, soiled linen, etc. In dilute solutions the metallic taste would prevent the swallowing of a fatal dose, and it was perhaps no more dangerous than carbolic acid, or concentrated solutions of other metallic salts, the mineral acids, etc. The concentrated solutions could be colored by the addition of potassium permanganate, as proposed by the Committee on Disinfectants of the American Public Health Association, or by an aniline dye (blue) as had been practised by Dr. Sonderegger, the delegate from Switzerland.

Several members having referred to the omission of sulphur dioxide from the list of disinfectants, the delegate from the United States, speaking for the committee by request of Dr. Koch, explained this omission as follows:

While it is demonstrated by laboratory experiments that this gas in a tightly closed chamber, and especially in the presence of moisture, has a certain value as a disinfectant, yet the conditions of successful disinfection are so difficult to attain in practice that there can be no doubt that much of the so-called disinfection with this agent is a farce, and that the success often ascribed to sulphur fumigation is probably largely due to the subsequent free ventilation and general cleaning up which commonly follow such fumigations. Dr. Koch has shown that the escape of sulphur dioxide is extremely rapid from a chamber which has been closed more thoroughly than can commonly be accomplished in ordinary practice. On the other hand, the destruction of micrococci and bacilli without spores, requires long exposure to a considerable amount of this agent, while spores are not destroyed by it in the greatest possible concentration. Moreover, it has been shown by Koch, and by the speaker's more recent experiments, that the penetrating power of this agent is very slight, and that material protected by a single thickness of blanket, may escape disinfection when exposed for many hours in an atmosphere in which sulphur dioxide has been generated in large quantity.

It seems, therefore, so far as cholera is concerned, to be more rational to rely upon a thorough cleansing of surfaces, and the immersion of soiled articles in a disinfecting solution, or exposure to steam. For, the object is not to disinfect the atmosphere of an infected room, but its contents which have been soiled by the discharges of the sick, etc.

It is futile to think of disinfecting the atmosphere of the sick-room, for in a properly ventilated apartment this is constantly changing while the room is occupied, and when it is vacated can be replaced by fresh air in a few moments by opening doors and windows.

Upon motion of Sir Joseph Fayrer, the report of the Committee on Disinfectants was adopted *en bloc*, by a vote of 20 affirmative, to 1 negative (Turkey).

NEWS ITEMS.

CHICAGO.

(*From our Special Correspondent.*)

SANITARY CONDITION OF CHICAGO.—Typhoid fever is prevalent in Chicago. Dr. Oscar C. De Wolfe, Commissioner of Health, says that fifteen years ago typhoid fever was comparatively unknown in Cook County; on the other hand, malarial fevers of all types were common. Now, the hospital wards are gradually filling up with typhoid fever cases, while acute intermittent or remittent fevers are relatively seldom observed.

Dr. M. Maunheimer corroborated the testimony of Dr. De Wolfe.

It is difficult to estimate adequately the sanitary condition of the city. Professor James Nevins Hyde, M.D., in a recent editorial, alluded to the subject in the following vigorous terms:

"When a stranger visits the City of Chicago for the first time, his earliest request is to be shown the waterworks and the stockyards. These are the features for which the town has established a reputation."

"The sacred singer of Israel once cried in a burst of poetic imagery, 'Moab is my wash-pot!' Chicago might well echo with the refrain, 'Lake Michigan is my wash-pot, my drinking-cup, and my chamber-pot!'"

"Her water-works are indeed great. They supply her with water from the lake fully and freely—in fact, as fully and as freely as she restores to it again the refuse of her corporate body. If there be any germ of disease in her excreta, any virus lurking in her animal refuse, she receives it again in part after it has been thrown off."

"Not content with emptying her own ejecta into the lake from which she drinks, Chicago pours into it also the drainings from her immense cattle-yards, and from the great slaughterhouses, where the animals brought to her doors from the whole of the Northwest, are cut up and packed for the consumption of the world."

The South Fork is that fork of the South Branch of the Chicago River, which starts at Thirty-ninth and Halstead streets, and empties into the South Branch in Bridgeport, near the pumping works. "The foulest, filthiest, deadliest section lies just north of the Union

Stockyards, and is about one mile in length, from one hundred to two hundred feet in width, and from nine to eighteen feet deep." (Daily paper.)

Professor Hyde goes on to say:

"The Witches' Cauldron here correctly described, exhales its pestilential breath about two miles from the spot where some of the wealthy 'packers' of this city have erected palaces which a king might envy, their costly stones overlooking the fashionable thoroughfare where youth, beauty, premature age, and folly drive their showy equipages in a splendid ignorance of what is floating beyond!" Nevertheless, the authorities insist that Chicago is in a better sanitary condition than any other city in the world. Mark Twain says of Chicago people, "That they are cultivated and charming, but are inclined to underestimate themselves."

PROVIDENCE.

(*From our Special Correspondent.*)

A New Medico-legal Society in Rhode Island.—Fifteen of the twenty-four medical examiners of the State of Rhode Island, assembled in Providence on the 11th inst. to lay the foundation for a State Medico-Legal Society. After some discussion a temporary organization was effected with Dr. William H. Palmer, of Providence, as President, and Dr. F. B. Fuller, of Pawtucket, as Clerk. A committee consisting of Drs. Garvin, of Lansdale, Morgan, of Westerly, Fuller, of Pawtucket, and Wilcox and Palmer, of Providence, was appointed to arrange for a permanent organization, and report at the next meeting.

MONTREAL.

(*From our Special Correspondent.*)

Hospital Medical Appointments.—At a meeting of the Governors of the Montreal General Hospital, for the election of officers, held May 21st, Dr. Richard L. MacDonnell was elected to the vacancy in the staff of physicians caused by the resignation of Dr. Osler. Dr. Alexander Blackader and Dr. F. W. Campbell were appointed Assistant Physicians, and Dr. James Bell, Assistant Surgeon. At the same meeting Dr. William Gardener was appointed Gynecologist, and Dr. George W. Major, Laryngologist to the Hospital. These two gentlemen are the first to hold these appointments.

Health Officer.—No medical officer of health has yet been appointed, the City Council having refused to accept the nomination of the Advisory Medical Board. The ex-vaccination physician has been appointed temporarily to the position, but has no chance of holding the appointment permanently.

The city is still without public vaccinators, and no attempt is being made to supply the need. Smallpox is yet amongst us, there being thirteen cases in the Smallpox Hospital, and several in the eastern part of the city.

Uric Acid Calculus of Enormous Size.—We desire to place on record some particulars of one of the most remarkable calculi that the records of surgery furnish. It was removed by the high operation (Petersen's modification), on Wednesday morning, by Sir Henry Thompson, from a man aged sixty-two. The stone was of an oval form, of pure uric acid, without any phosphatic incrustation whatever. It weighs 14 oz. avoirdupois (405 grammes), and measures 4½ in. long, 3¼ in. wide, and 2⅛ in. thick. The operation was rapid, and performed without difficulty; and the patient's present condition is unusually good and promising.—*The Lancet*, May 2, 1885.

NOTES AND QUERIES.

TREATMENT OF MENTAL DISORDERS IN THE EARLY STAGE.

To the Editor of The Medical News.

Sir: Allow me to call attention to a printer's mistake in the report of the Committee on Lunacy and Idiocy in the proceedings of the State Medical Society.

On page 644, second column, June 6, 1885, and on the top line, it reads, "The use of stimulants should be ordered in asthenic cases." Now, the report was just the other way, as the next sentence of the report will show. If the word "avoided" had been used, it would have been correct. The argument of the report was in favor of general toxic treatment with iron and a good diet, avoiding all kinds of stimulants on the ground that their effect was only temporary and likely to lead to the formation of an injurious practice afterwards.

Very truly yours,

John Curwen.

June 8, 1885.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JUNE 2 TO JUNE 15, 1885.

Horton, S. M., *Major and Surgeon.*—Ordered for duty as Post Surgeon at Fort Riley, Kansas.—*S. O. 78, Department of Missouri*, June 1, 1885.

Cleary, P. J. A., *Major and Surgeon.*—Ordered for duty as Post Surgeon at Fort Lyon, Colorado.—*S. O. 78, Department of Missouri*, June 1, 1885.

Porter, Jos. Y., *Captain and Assistant Surgeon.*—Granted leave of absence for six months on account of disability—*S. O. 126, A. G. O.*, June 3, 1885.

Richard, Charles, *Captain and Assistant Surgeon.*—Granted leave of absence for three days.—*S. O. 128, A. G. O.*, June 5, 1885.

Robertson, R. L., *First Lieutenant and Assistant Surgeon.*—Leave of absence extended one month.—*S. O. 123, A. G. O.*, May 29, 1885.

B. E. Fryer, *Major and Surgeon.*—Ordinary leave of absence extended six months, from July 1, 1885, on surgeon's certificate of disability.—*S. O. 129, A. G. O.*, June 6, 1885.

The order directing Major P. J. A Cleary, Surgeon U. S. A., to change station from Fort Union, New Mexico, to Fort Lyon, Colorado, is revoked.—*S. O. 81, Department of Missouri*, June 8, 1885.

C. N. B. Macauley, *First Lieutenant and Assistant Surgeon.*—Relieved from duty at Fort Lisseton, D. T., and ordered for duty at Fort Abraham Lincoln, Dakota Territory.—*S. O. 61, Department of Dakota*, June 5, 1885.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE WEEK ENDING JUNE 13, 1885.

Wyman, Walter, *Surgeon.*—To inspect unserviceable property at Baltimore, Md., June 6, 1885.

Carter, H R., *Passed Assistant Surgeon.*—To inspect unserviceable property at San Francisco, Cal., June 6, 1885.

Battle, K. P., *Assistant Surgeon.*—To inspect unserviceable property at New Orleans, La , June 6, 1885.

Wyman, Walter, *Surgeon.*—To proceed to New York City and assume charge of the service, relieving Surgeon Sawtelle, June 8, 1885.

Banks, C. E., *Passed Assistant Surgeon.*—Granted leave of absence for thirty days, June 12, 1885.

THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

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ORIGINAL ARTICLES.

FATAL OBSTRUCTION OF THE ILEO-CÆCAL VALVE BY A GALL-STONE.

BY RUSSELL H. JOHNSON, M.D.,

OF PHILADELPHIA.

My patient was a gentleman well advanced in the seventies, showing unmistakably the feebleness of old age, but still able to enjoy his daily walk and give some attention to business. I saw him first upon the morning of the 20th of July. The preceding evening he had taken some purgative pills to relieve a condition of constipation which was more or less habitual with him. I found that the bowels had acted slightly, but that vomiting had occurred some hours before my arrival, and still continued at intervals. The patient had an anxious expression of countenance, the conjunctivæ were slightly jaundiced, features sunken and pale, hands and feet cold, axillary temperature normal, and pulse weak and compressible. He complained of some abdominal pain, not great however. Inspection showed the abdomen of normal contour, not painful upon pressure, no meteorism, neither could any tumor be detected. There was, however, an apparent but very moderate dulness in the ileo-cæcal region. The vomiting was most distressing, allowing the patient but short intervals of rest, and immediately caused by any movement as sitting up in bed, or the ingestion of even small quantities of nourishment. The matter vomited at this time contained particles of food and large quantities of bile, and was ejected with considerable retching.

But little change occurred in the symptoms during the following six days, excepting that the patient grew weaker and more exhausted as the disease approached its fatal termination. The abdomen, daily examined in the hope that new light might be thrown upon the case, remained very much as above noted, showing no symptoms of general or local peritonitis. It was but to a very trifling degree painful upon pressure, and was distended by a very moderate amount of tympanites. The dulness in the right hypochondrium did not increase, and no tumor was felt. The vomiting, although upon several occasions controlled for three or four hours, or longer, invariably returned, becoming more and more alarming in character, simple rejection of the ingesta and bile giving place to stercoraceous vomiting, accompanied by frequent eructations of fetid gases. Attacks of hiccough added still more to the patient's discomfort.

After the small evacuation on the 20th, the bowels remained obstinately constipated; the patient was however frequently annoyed by a feeling of tenesmus, and an idea that the bowels were about to be moved. The secretion of urine at first presented nothing worthy of remark, but became gradually more scanty, and during the last eighteen hours of life was completely suppressed. The patient gradually sank, and on the 26th of July, six days after the initial attack, died, exhausted by the constant vomiting and his inability to take nourishment.

The family gave their consent to an autopsy, which I immediately made, and found the cause of the obstruction to be a large stony concretion, firmly wedged into and completely occluding the ileo-cæcal valve. No other lesion was observed excepting injection and inflammation of the intestine immediately surrounding the stone. The stone was an inch and three-quarters in length, and one inch or over in diameter. Oval in form, dark brown in color, with a hard smooth surface, and a fatty greasy feeling. Having placed it in the hands of a chemist for analysis, it was reported to consist of cholesterine, inorganic and coloring matters, the cholesterine vastly preponderating, forming some eighty per cent. of the whole.

How to explain the presence of so large a concretion in the intestine is a matter of some interest. If this had proved to be an intestinal stone, we would be put to no trouble on that score. Enteroliths, however, are usually found in the large intestine, and consist in great measure of lime and magnesia, or of hardened feces and mucus, having perhaps some foreign body for a nucleus. The chemical analysis, however, of this body, shows it to be composed entirely of cholesterine, therefore a true gall stone.

Being a gall-stone, could it, when of dimensions permitting its escape from the gall-bladder, have passed into the intestine, and there lying in a sack or diverticulum, grown to its present size. The very different conditions under which the bile appears in the intestines, render this supposition highly improbable. Whatever other changes in the condition of the bile contribute to the formation of these calculi, certainly rest and stasis are among the most important factors—conditions which would not be found in the intestine, where the admixture of the bile with the products of digestion and the peristaltic movements of the intestine, would be very unfavorable conditions for the precipitation and crystallization of biliary constituents. Is it possible, then, that a gall-stone of such unusual size, could have traversed the cystic and common ducts? Can we suppose that a concretion which caused fatal intestinal obstruction ever passed through such narrow canals? Where do we find forces powerful enough to accomplish such a result?

The force which propels gall-stones through the excreting ducts is by no means thoroughly understood by observers.

The force exerted by the onflow of the dammed-up bile, by the contractions of the gall-bladder and abdominal muscles, appear hardly or but just adequate to the expulsion of small stones, certainly in-

sufficient for the extrusion of a stone one and three-quarters in length by one in diameter. Another reason for supposing that the intestine was reached by other than the natural route was the fact that most careful and painstaking inquiry failed to elicit any history of hepatic colic; and we may rest assured that the intense pain and other marked symptoms incident to the passage of a gall-stone through the ducts would have impressed themselves indelibly upon the sufferer's memory. This remarkable fact is especially mentioned by Murchison and others, who have reported a number of cases of large gall-stones causing in some cases death, and in others finally passed per anum after more or less alarming symptoms; the patient, in fact, being unaware of the occurrence of anything unusual until the stone, reaching the intestine, caused symptoms of obstruction.

I think, then, that the facts of this case warrant the conclusion that the gall stone under consideration escaped from the gall bladder by means of a fistulous tract connecting it with the duodenum. There is nothing improbable in this supposition. A large foreign body lying in the gall-bladder, and closely approximated to its walls, must in time cause inflammation, and finally ulceration, of its tissue. The local peritonitis accompanying these changes would, by the exudation of lymph, cause the agglutination and adhesion of the opposing surfaces of the gall-bladder and duodenum; and thus, by one of the conservative efforts of nature, give the patient at least a chance for his life.

Such a local peritonitis may occur without giving rise to any well-defined symptom, as the history of this case and of others reported makes sufficiently obvious.

Autopsical examinations (especially those made by Murchison) have in many instances shown the presence of these fistulas, and lead us to infer that it is not a very unusual occurrence.

The treatment of this case presents nothing of special interest. One of the most prominent indications for treatment was to control the vomiting, and to attain this desired result a variety of medicines was employed with, it must be confessed, very indifferent success, with the single exception of morphia. Morphia, however, proved useful; and, under its influence the patient enjoyed tolerably prolonged intervals of rest from the harassing attacks of vomiting, which permitted him to sleep, and, to some extent, to recover from his exhaustion. The morphia treatment was the more willingly persevered in as it met the indications for intestinal obstruction, and was given in such doses as appeared necessary to control or moderate peristaltic action, and to lessen pain and colic. Enemata were used early in the attack, not so much in the hope that they would prove of service in overcoming obstruction (for the occlusion was supposed to lie in the small intestine) as for the purpose of emptying the lower bowel, and thus in some measure rendering the patient's condition more tolerable. The injections, however, merely brought away a small amount of fecal matter from the rectum and sigmoid flexure.

Externally hot applications were made over the abdomen.

The administration of nourishment was a matter of great difficulty. The smallest amounts of milk and lime-water, or of beef tea, were immediately rejected by the stomach, and, finally, the attempt had to be abandoned, and life maintained by nutritious rectal enemata. These were fortunately retained, and in great measure absorbed. It was not until the last day or two of life that the rectum became too irritable to permit of this method of administering nourishment.

In conclusion, it may be added that the exhaustion and collapse rendered stimulants necessary.

URIC ACID:

(1) ITS MEDICAL RELATIONS: (2) A RELIABLE METHOD OF QUANTITATIVE ESTIMATION.

By T. WESLEY MILLS, M.A., M.D.,
LECTURER ON PHYSIOLOGY, MCGILL UNIVERSITY, MONTREAL.

The quantity of uric acid secreted daily varies from 7½ to 15 grains under normal conditions, or, what seems to be of more practical moment, the quantity of uric acid secreted daily is, according to the estimations of H. Ranke, in the proportion of 1 : 41 to 1 : 61 of urea.

The quantity of uric acid is lessened at the onset of acute gout, followed later by a rise. It is also diminished by chronic gout, osteomalacia, and the different forms of Bright's disease. In diabetes mellitus there is a diminution of the uric acid with an increase of the urea.

There is in fever a marked increase according to all observers, and especially in croupous pneumonia, this being both absolute and relatively to the urea.

Bartels found in a case of poisoning by carbonic oxide (CO), the proportion of uric acid to urea to be 1 : 30.

Senator thought he had proved by experiments on animals that dyspnœa caused an increased amount of uric acid secretion, and Bartels has shown that the same holds in the case of men. But it has been recently clearly shown by several quantitative calculations by different observers, that in leukæmia the normal proportion of uric acid to urea found in the urine is greatly disturbed. That there is at all events a great increase in the quantity of uric acid, so that the proportion, instead of being as stated above, may be 1 : 20, or even 1 : 16.

The explanation offered in this case as well as in the case of the increase in dyspnœa (whether owing to disease or artificially induced), is diminished oxidation in the body generally. The "respiratory" power of the blood must plainly be lessened in leukæmia. This taken in connection with the well-known fact that in the laboratory uric acid can be oxidized to urea, affording a hypothetical basis for the assumption that it actually is so oxidized in the body, and that interference with the normal supply of oxygen on the one hand, or with the process of oxidation on the other, may keep more than the usual quantity of uric acid back from its change to urea; all this lends great plausibility to such an hypothesis.

I have satisfied myself of the truth of the above-

stated fact as to an increase of the uric acid and disturbance of its proportion to urea in leukæmia, by an estimation according to Salkowski's method presently to be described.

The quantity of urea for twenty-four hours, was by Liebig's method found to be 29.260 grains. That of uric acid, 1.0423. The ration, 1 : 28.

Manifestly before such calculations can be of great value the method of estimation must be reliable.

The method that was for a long time followed, and is still largely used, is that of Heintz, which is as follows: To 200 cc. of urine, 10 cc. of hydrochloric acid are to be added, allowed to stand in a cool place for forty-eight hours, then collected by filtration, etc., on a weighed filter, washed, the wash water collected, measured, and a correction by way of an addition made to the amount of urea actually found.

There was however, supposing all the uric acid to be precipitated, a variable error arising from the very fluctuating quantity of pigment adhering to the crystals. More than a year ago I undertook to ascertain definitely by actual comparative estimations how reliable this method really was, and with the following results: Having first ascertained that Salkowski's silver method was absolutely accurate, calculations were made by this method and compared with the results obtained by Heintz's method. The figures here given in a single example, using the same urine for each method, will make the matter clear.

I. Heintz's method:

	Grains.
Weight of watch-glasses, clip, filter with uric acid	15.223
Weight of watch-glasses, clip only .	15.208
Weight of uric acid .	00.015

II. Salkowski's method:

	Grains.
Weight of watch-glasses, clip, filter with uric acid	22.8235
Weight of watch-glasses, clip only .	22.7735
Weight of uric acid .	00.0600

The corrective addition for Heintz's method would not equal that for Salkowski's, so that it is clear that in this case the amount found by Heintz's method is only one-fourth what it ought to be, notwithstanding that after the addition of hydrochloric acid the urine was allowed to stand seventy-two instead of forty-eight hours. After the application of Salkowski's method no uric acid can be detected in the filtrates.

To insure success with it, the minutest details must receive attention. I shall, therefore, give Salkowski's own account of it in full.

250 cc. urine are to be treated with 50 cc. ammoniacal magnesian mixture (made by mixing one part crystallized magnesium sulphate, two parts ammonium chloride, four parts ammonia of sp. gr. 0.924, and eight parts water), and at once filtered. Take of this 240 cc., representing 200 cc. urine, and treat with a solution of silver nitrate of about three per cent. strength. This produces a flaky gelatinous precipitate, easily distinguishable from silver chloride. A little ammonia may be added to insure the solution of all the silver chloride. Upon standing, this precipitate soon settles to the bottom, leaving the supernatant fluid clear.

A little of the latter must be drawn off with a pipette into a test tube, and tested for silver by the addition of nitric acid to acid reaction. If a turbidity is visible, enough (slight excess) of silver nitrate has been added. If not, the fluid withdrawn must again be made alkaline with ammonia, and poured back and more silver nitrate added and tested anew. The whole is then filtered at once (to avoid decomposition), through a folded filter made of good rapidly filtering paper, and of about 12 cm. diameter. The precipitate is to be brought upon the filter with a trimmed feather and washed several times with water.

It must be washed until evidence of the presence of silver can no longer be obtained by treatment with nitric acid as above, nor of chlorides by the addition of silver nitrate. One hour on the average suffices for this part of the work. The filter with the precipitate (or the precipitate washed off by a wash-bottle), to be brought into a wide-mouthed flask, about 200 cc. of water added, shaken well, and submitted to a stream of sulphuretted hydrogen not too weak, with constant shaking. The contents of the flask are next heated to the beginning of boiling and a few drops of hydrochloric acid added until the reaction is decidedly acid. Filter free from silver sulphide (and paper), using a folded filter to expedite the process, then wash several times with hot water. The filtrate should be clear and colorless. Evaporate the filtrate as rapidly as possible in a porcelain dish over a free flame to a few centimetres. Add a few drops of hydrochloric acid and after twenty-four hours standing in the cold, the precipitate that has separated is collected on a weighed filter, washed first with water, then with alcohol, and finally with absolute alcohol and ether. The wash water is to be collected, measured, and for every 10 cc. of it 0.48 milligramme is to be added to the weight of uric acid found.

Very concentrated urine (fever) is to be diluted to double its bulk.

The above account of this method is a free translation of that given in *Die Lehre vom Harn. von Dr. Salkowski und Dr. Wilhelm Leube*, in which elaborate work the whole subject of uric acid is fully discussed.

As this method is tedious and laborious, I have tried to find another less open to these objections, and first of all by different degrees of concentration of the urine before treatment with hydrochloric acid. By this means much more uric acid can be obtained, but it is liable to be, and in fact generally is, mixed with much pigment, the separation of which is a matter of great difficulty. However, if Heintz's method is to be used, some concentration and allowing the urine to *stand for at least a week* will give results much more nearly correct. But there can no longer be any doubt that this old method of Heintz is very incorrect. I succeeded, indeed, in finding a new method, but, upon the whole, not less tedious than that of Salkowski, so that I feel confident in

stating that, for the determination of uric acid, Salkowski's method is the best known and is absolutely reliable.

A CASE OF LATE CUTANEOUS SYPHILIS (ACNE-LIKE SYPHILODERM OF THE NOSE), ILLUSTRATING THE OCCASIONAL NECESSITY OF LARGE DOSES OF POTASSIUM IODIDE.

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THE patient, an intelligent male German, whose case furnishes the material for this paper, applied for treatment at the Northern Dispensary in August of 1883. On the right side of the nose, near the junction of the ala with the cheek, were three or four papular elevations, the apices of which were slightly depressed with a central point of suppuration. Each lesion was about the size of a small split-pea. In appearance they resembled abraded acne papulo-pustules. There was some infiltration, with more or less redness. On other parts of the nose, and in the immediate neighborhood of the same, were several small pea-sized, shallow scars, the remains, evidently, of recent lesions. At a point near the base of the nose was an acne-like papulo-pustule. The eruption had made its appearance three months previously. The forehead presented scars similar to those about the nose, except that they were much paler and less distinct, and in other ways showed that they were remains of an eruption of some years past. No other symptoms presented. Questioning elicited that the patient, fifteen years ago, had had a venereal disease, which he had always considered simply a gonorrhœa. So far as the patient remembered, there had been no symptoms of cutaneous disturbance until eight years later, when the eruption on the forehead made its appearance. At this time, also, there appeared a suppurating, gummatous swelling upon the left forearm, the scar of which is still plainly visible. After a few months' treatment the eruption and the gummatous ulceration disappeared, leaving the cicatrices already mentioned. Since then, up to the time of the present eruption, patient had enjoyed his usual good health, and had observed no other symptoms, either objective or subjective.

Patient is a married man, and the father of four children, three of whom died in the first two months of life; the fourth is still living, and is perfectly healthy. The wife, so far as he is cognizant, has never had any cutaneous disease, or shown any symptom which could be looked upon as suspicious.

So much for the history and condition of patient when admitted for treatment.

The diagnosis of syphilis was made, and patient placed upon potassium iodide and the red iodide of mercury, five grains of the former and one-twenty-fourth of the latter three times daily. An ointment of thirty grains of white precipitate to the ounce of lard was ordered for local application. In the next two weeks a few new papulo-pustules appeared on other parts of the nose, somewhat inflammatory, and with considerable surrounding hyperæmia. The other lesions were slowly retrograding. The dose of the potassium iodide was increased to ten grains, and that of the mercury to one-sixteenth. Two weeks more passed, and the eruption still remained uninfluenced; new lesions slowly appearing, and the old ones as slowly disappearing. A shallow depression and scar marked the site of each disappearing lesion. When two or three lesions existed close together, the intervening skin was slightly reddened and infiltrated. With the eruption there was more or less papillary and connective tissue hypertrophy. Indeed, the resemblance to acne rosacea was striking: the papulo-pustules, to a certain extent, simulating the acne lesions, and the superadded redness and hypertrophy, together with the presence of a few small dilated capillaries, completing the picture. The iodide was now increased to twenty-grain doses, with an increase also in the mercury biniodide. No change taking place in two weeks, the iodide was still further increased to thirty grains three times daily. Fourteen days under this dose showed no appreciable improvement.

The patient had now been under treatment two months, and the character and course of the disease remained unchanged; the older lesions disappearing and new ones appearing, evolution and involution taking place very slowly. At this time there were probably more lesions present than at the beginning of the treatment. There were several on the parts adjacent to the nose, and the hyperæmia had increased. So striking was the resemblance to acne, that the case was again carefully investigated, but with the same diagnosis resulting. The same treatment—thirty-grain doses of potassium iodide, and one-twelfth of a grain of biniodide of mercury—was continued a month longer, but with no benefit. The local treatment was changed from time to time, the oleate, corrosive sublimate, red oxide, and the ordinary mercurial ointment all being tried.

Against my better judgment, or at least in desperation, the above plan of treatment was discarded, and the case treated as acne. At first there seemed slight improvement. The disease, however, continued, and after several weeks of varied treatment the result was negative. About this time there appeared a slight nodular swelling of the left ulna. The first impression of the nature of the eruption was thereby confirmed, and the antisyphilitic treatment resumed. Beginning with thirty-grain doses of the potassium iodide and one-twelfth of the mercury biniodide, the former, two weeks later, was increased to forty grains three times daily, and continued fourteen days. The nodular swelling disappeared, but the eruption was but slightly, if at all, influenced. The dose was now increased to fifty grains, and no improvement resulting, to one drachm. It was not until the drachm doses were given, that any change was noted.

From this time forward, however, the improvement was marked, and within three weeks after this dose had been reached the eruption had practically disap-

[1] Read at the eighth annual meeting of the American Dermatological Association, Highland Falls, New York, August 29, 1884.

peared. Up to the present time there has been no relapse. The scars, of course, still remain, and resemble, in size, character, and appearance, those observed to follow the so-called atrophic acne. There remains also more or less papillary hypertrophy. Up to the date of the administration of drachm doses, the eruption had fluctuated slightly from time to time, remaining, however, essentially the same; never violent, but of an indolent character. Strange to say, the stomach stood the large doses admirably. Nausea and irritation occasionally occurred, but seemed to be produced by the menstruum rather than by the potassium iodide, as a change of such was always followed by a disappearance of the gastric uneasiness.

While I am aware that large doses of the potassium iodide have been given in visceral and nervous syphilis, in the latter particularly by Dr. S. Weir Mitchell, yet in cases of cutaneous syphilis, such amounts, especially continued for so long a period, are unusnal. My own experience would indicate that it is rarely necessary to exceed the dose of thirty grains, three times daily, and in the great majority of cases ten-grain doses will suffice.

MEDICAL PROGRESS.

Ball Weighing Four Pounds Encysted for Thirty Years.—M. Vaslin, at the recent meeting of the French Surgical Congress, exhibited a ball weighing about four pounds (200 grammes), which had remained encysted for thirty years. The projectile measured eight and four-fifths inches in circumference, and was extracted from the left side of an old soldier, upon whom M. Vaslin held a post-mortem the latter part of 1884. The man was wounded in 1855, but recovered very rapidly from the injury and never experienced any suffering from its effects until 1870. At this time the wound, which had been closed for fourteen years, opened and a fragment of clothing escaped. However, the pain occasioned thereby in his side and leg was not sufficient to interrupt the performance of his ordinary duties. In 1884, M. Vaslin was called to visit the patient, and introducing a probe into the fistula, above Poupart's ligament, discovered a hard body which he suspected to be a ball. Operation was refused, and in November, 1884, all the phenomena of a suppurating psoas abscess were established, and notwithstanding free incision and drainage the patient died.

The ball which penetrated the iliac fossa in 1855, had little by little until 1870, obeying the laws of gravity, traversed the muscles of the pelvis, and at this time arriving at the level of the iliac fossa caused the pain then experienced. During the fourteen years intervening the ball progressed along the bone, wearing a deep channel into its substance, extending from near the crest of the ilium toward the bottom of the cotyloid cavity, and at this time the ultimate manifestations occurred. The case, though rare, is not unique, both Larrey and Weis having reported similar encystment of bullets during a protracted period.—*Revue Médicale*, May 16, 1885.

Thallin.—Prof. Maragliano, at a meeting of the Italian Medical Society, held in Genoa, April 28, 1885, reported the results of his experiments made upon thallin. He observed that in apyrexia thallin exercises a slightly depressing effect upon the temperature, and that the pulse and respiration are also slightly diminished in frequency, while the intraärterial pressure is slightly increased.

In patients in whom pyrexia is present, thallin constantly lowers the temperature, the reduction varying with the dose. Doses of about 4 grains cause a reduction of about 1⅕° F.; doses of 7½ grains a reduction of from 1⅘° F. to nearly 6° F.; doses of 11½ grains reduced the temperature from 2⅓° F. to 7⅕° F.; while doses of 15½ grains cause a reduction of from 3½° F. to 8½° F.

The reduction of temperature ordinarily begins in an hour after the administration of the drug and attains its maximum in two hours if the diminution is about 2.7° F., and after three or four hours if it is greater. The effect of the drug persists from one to ten hours according to the dose. The reduction of temperature is ordinarily accompanied by perspiration, more or less profuse.

The disappearance of the fever is sometimes preceded by the shivering and chill. Frequency of the pulse and of respiration diminishes proportionately to the reduction of temperature and to the dose of the drug.

Thallin does not produce vomiting nor any other gastric disturbance, and may be administered in the quantity of 110 grains in twenty-four hours without inconvenience of any kind. It is found in the urine an hour and a half after its administration, and the greater quantity of it is eliminated in the first ten hours.

Twenty hours after the administration of the drug the urine does not give the characteristic reaction with the chloride of iron. After the administration of the drug the urine assumes a characteristic darkish-green color, which sometimes is absent after small doses. Prof. Maragliano has administered thallin in divers febrile diseases, and finds the fever depending upon pulmonary phthisis to be the least resisting, while that of fibrinous pulmonitis is the most intractable. Prof. Maragliano also finds that the drug diminishes the quantity of urea and of carbonic acid eliminated in twenty-four hours in apyretic subjects, and that it causes in the apyretic, as well as in patients with elevated temperature, a dilatation in the cutaneous vessels and an increase in the elimination of heat.—*Gazzetta degli Ospitali*, May 20, 1885.

The Influence of Salicylate of Soda and the Salts of Quinine upon the Peripheral Circulation.—At a meeting of the Academy of Medicine, of Genoa, held April 28, 1885, Dr. Pedrazzi reported the results of his experiments to determine the effect of the salicylate of soda and the salts of quinine upon the peripheral circulation, of which the following are the conclusions:

1. Salicylate of soda produces dilatation of the peripheral bloodvessels.

2. Dilatation begins to be manifested in about two hours after the administration of the drug.

3. Dilatation from the indicated dose has a duration varying from two to four hours, after which the vessel tend to return to their primitive calibre.

4. During the peripheral dilatations the calorimeter shows an increased loss of heat from the cutaneous surface, an increase which in the first five minutes varies between 7⅕° and 9° F.

5. The normal temperature is either not modified or is scarcely lowered a tenth of a degree.

6. The sulphate and the bicarbonate of quinine dilate the peripheral vessels.

7. Along with the dilatation of the vessels the dispersion of heat from the cutaneous surface is increased.—*Gazzetta degli Ospitali*, May 20, 1885.

TREATMENT OF CHOLERA.—DRS. T. LAUDER BRUNTON and P. H. PYE-SMITH, at the conclusion of a paper upon researches relating to the pathology and treatment of cholera, say: We think that the directions in which further researches after a remedy for cholera are most likely to prove successful are:

1. The discovery of an antiseptic which will destroy pathogenic organisms in the intestine and prevent the formation of the cholera poison, while they are not themselves poisonous. Corrosive sublimate is a sufficiently powerful antiseptic, but it may itself prove poisonous to the patient as well as to the pathogenic organisms. It is possible that amongst the members of the aromatic group of bodies the desired substance may be found having the desired properties.

2. The discovery of some substance which will antagonize the action of the cholera poison after its absorption. As a preliminary step in this direction, further experiments are needed on the nature and action of alkaloidal substances obtained from cholera dejecta as well as from artificial cultivations in various media and under various conditions, electrical and otherwise.

3. Observations on the effect of stimulation of the mesenteric plexus by currents passed through the uninjured abdomen in poisoned animals and in patients suffering from the disease.—*The Practitioner*, June, 1885.

PRESERVATION OF SOLUTIONS OF COCAINE.—In an article on this subject in *Ephemeris*, May, 1885, the writer, after reviewing his numerous experiments to determine the best preservatives of solutions of cocaine, says: It will be seen that all these observations, extending over about six months, are insufficient to establish anything more than a strong probability that boric acid in the proportion adopted, namely, a half of one per cent., will protect these solutions, until they are used up in the ordinary practice; and, therefore, the writer takes advantage of this probability, and hereafter will abandon the use of salicylic acid for the protection of solution of hydrochlorate of cocaine, and substitute boric acid. This boric acid will be used in the proportion of 0.5 per cent. so long as there is no evidence of this proportion failing to protect. But in case it should fail in any considerable number of instances upon prolonged experience, the proportion will be increased to 1 per cent.

Some of the British journals have recently recommended camphor water as a good protective agent for these solutions, and rationally it should be protective as are all the substances belonging to the aromatic series, but camphor is more irritant, or less sedative to mucous surfaces than boric acid, and the proportion necessary to protect does not seem to have been yet carefully determined.

TWO CASES OF LAPAROTOMY PERFORMED FOR ILEUS.—At a meeting of the Berlin Medical Society, held May 6, 1885, PROF. BARDLEBEN exhibited two patients upon whom he had operated for ileus.

The first patient was a young man aged twenty-four years, who during his youth had frequently suffered from abdominal pains. August 17, he came to Dr. Frerich's clinic, suffering from intestinal obstruction, extremely violent vomiting, and with the abdomen greatly swollen. During the three succeeding days he was treated with opium and intestinal irrigation, but without any good result.

The diagnosis of ileus was accordingly made, and laparotomy performed. Abundant exudation was found in the abdomen, and the small intestine was found to be constricted at two points, at each of which incision was made, and the bowel released, but the intestine, nevertheless, did not regain its calibre at the constricted points. The bowel was, however, of moderate calibre, and its lumen such that it was not necessary to resect the portion between the two points of constriction. It was found, however, that owing to the macerating effect of the exudate upon the bowel at the ensnared regions, the serous coat was torn, and at these points, therefore, five fine sutures were introduced. At the conclusion of the operation considerable vomiting occurred, but the general condition of the patient was much improved. Large doses of opium were administered, and the bowels emptied by enemata. Notwithstanding the quantity of opium administered, the patient during the night succeeding the operation was very restless, and thereby removed the antiseptic dressing which had been applied to the abdominal wound. The swelling continued, and on the third day, when vomiting first ceased, it was evident that the wound had not cicatrized, but was still discharging pus abundantly. On the seventh day examination showed that superficial suppuration had been so abundant that although the peritoneum was healed at the bottom of the cavity opened by the incision, coils of the intestine were plainly visible, and even at one spot seemed to lay bare. Nevertheless, the case progressed favorably, and on the thirteenth day granulation had covered the intestinal coils, and perfect recovery took place, the patient at present enjoying perfect health.

The second patient exhibited was a man 47 years of age, who from early manhood had a left inguinal hernia.

April 23, 1884, he was seized with intense abdominal pain and severe vomiting. A week later he was brought to Prof. Frerich's clinic, and treated with opium and intestinal irrigation, with no beneficial results.

May 2d he was transferred to the surgical clinic. Examination showed that no strangulation existed, and the distended intestinal coils were plainly recognizable through the abdominal walls. The abdomen was very sensitive on the left side. The 5th of May the patient had a natural motion of the bowels and the vomiting ceased for one day, but then returned, though it was less violent than before. May 7th, the vomiting became more violent than it had previously been, and symptoms of collapse were developed with remarkable rapidity. Laparotomy was at once performed, and the intestine was found twisted upon itself, and retained in that condition through the existence of a firm exudate.

The malposition was remedied without difficulty, the exudate removed, and cure resulted without delay.—*Deutsche med. Wochenschrift*, May 14, 1885.

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GERMAN ANALYSES OF ENGLISH AND AMERICAN MEAT EXTRACTS.

IN view of the large number of meat preparations now in the market, and the merits claimed for them in the treatment of debility and exhausting diseases, it cannot fail to interest our readers to know how they bear the test of German scrutiny. A. STUTZER, of Bonn, has published in the *Berliner med. Wochenschr.* for April 15th, the results of an examination of nine preparations, including Murdock's liquid food, Valentine's meat juice, Johnson's fluid beef, Benger's peptonized beef jelly, Savory & Moore's fluid beef, Brand & Co.'s essence of beef, Reed & Carnrick's beef peptonoids, and Kemmerich's and Liebig's beef extracts, the first four being American, the next three English, and the last two German.

He first determined in each the proportion of organic matters, salts, and water, and then further treated the organic substances. In doing the latter he determined how much of the nitrogenous matters belonged to the easily digested albumen and pepton. He lays special stress upon these last, because on them the nutritive value of animal food depends. Two preparations, Carnrick's beef peptonoids and Johnson's fluid beef, contained albuminous substances in the form of fibrin, not soluble in water, of which the value must be determined by artificial digestion, since in this way only can be ascertained what proportion of the fibrin can be digested. He further noted the nitrogen in the shape of flesh bases, kreatin, carnin, etc., since these, with the potash and phosphoric acid associated with them, play an important rôle as food and stimulus for the nervous system.

The flesh extracts of Kemmerich and Liebig are chiefly used for healthy men, but are nevertheless recommended to convalescents to improve digestion and stimulate the circulation, results which are accomplished partly through the abundant flesh bases and partly through the phosphate of potash. This is in accordance with Liebig's own view, which did not claim for his extract any active nutritive power, but recommended it simply as a relish. Kemmerich's flesh extract contains a larger proportion of pepton and albumen, namely, 22 per cent., and he claims correctly for it the properties of a true nutriment, as well as a nervous stimulant.

Murdock's liquid food, which is an extract of beef, mutton, and fruits, made in Boston, is claimed to have 13½ per cent. of soluble albumen, which Stutzer has confirmed. The fluid contains 8.3 per cent. of alcohol, and on opening the well-sealed vessel the odor was not pleasant, and there seemed to be a partial decomposition of the contents, a tendency to which characterizes albuminous fluids if long kept, especially if they contain fruit juices prone to fermentation.

Valentine's meat juice, made at Richmond, Va., is also a fluid which contains kreatin, potash, and phosphoric acid along with a small quantity of albumen and pepton, and 59 per cent. of water.

Johnson's fluid beef, made in Canada, belongs, on account of its containing peptons and digestible albumen, to the better extracts, although the proportion of water is large, being 50 per cent. Stutzer found still more water, nearly 90 per cent., in Benger's peptonized beef jelly and Brand's essence of beef, of which the first is made in Manchester, England, the second in London.

The fluid meat—peptonized meat—of Savory & Moore possesses, according to Stutzer, very different properties. It contains chlorides in considerable amount, and is apparently made with hydrochloric acid in order to peptonize the meat, the acid being neutralized with sodium carbonate. In this method of peptonizing, with the aid of acids, Stutzer considers that the action proceeds too far and that the pepton resolves itself into substances, the nature of which is not precisely determined, but which probably do not possess the same nutritive value as pepton.

Essentially different from any of the above is the preparation known as beef peptonoids, made by Reed & Carnrick, of New York. It is a very fine dry powder, made of beef, gluten of wheat, and condensed milk, a mixture, therefore, of nitrogenous matters of animal and vegetable origin, and is easy of digestion. The gluten is carefully separated from other organic matters of wheat and contains only 1.25 per cent. of starch, and 0.25 per cent. of cellulose.

The determination of the nutritive value of these preparations can best be made by comparing the easily digestible albumen and pepton in the different preparations. In such a mode of comparison the most nutritious will be found to be Reed & Carnrick's beef peptonoids, of which 100 parts by weight contained the same amount of albumen and pepton as 178 parts of Johnson's fluid beef, 285 of Kemmerich's flesh extract, 482 of Murdock's liquid food, 745 of Brand and Co.'s essence of beef, 764 of Savory & Moore's fluid meat, 898 of Liebig's flesh extract, 902 of Benger's peptonized beef jelly, and 966 of Valentine's meat juice.

Reed & Carnrick's preparation contains, in addition to the nitrogenous matter, 10.67 per cent. of fat, and 10.02 per cent. of soluble non-nitrogenous matters in the shape of dextrin and sugar.

In this comparison, says Stutzer, Liebig's extract takes a subordinate position, because it is found to be only an appetizing, and not a nutritious substance. If, on the other hand, the comparison is made as regards the flesh bases contained in them, it is found that 100 parts by weight of Liebig's extract contain the same amount of nitrogen in the form of kreatin and carnin as 126 of Kemmerich's meat extract, 537 of Valentine's meat juice, 558 of Johnson's fluid beef, 1844 of Benger's peptonized beef jelly, 4161 of Murdock's liquid food, 5053 of Brand's essence of beef, and 7782 of Reed & Carnrick's beef peptonoids.

From the above very interesting analysis it will be seen that the different articles of food have a far different value, according as they are regarded as nutritive or appetizing, and the indications in each case should be carefully considered before they are prescribed. If these analyses are correct, and they bear the stamp of reliability, it is very evident that an undue value is claimed by the makers for certain of these preparations, and that physicians who have been basing their use upon the representations of the makers, rather than on actual chemical composition, will find a reason for any disappointment in results which they may have noted.

SPINA BIFIDA.

AT a recent meeting of the Clinical Society of London, the proceedings of which may be found in the London medical weeklies for May 30th, a committee, consisting of MR. HOWARD MARSH, MR. PEARCE GOULD, MR. H. H. CLUTTON, and MR. R. W. PARKER, made a lengthy report upon the pathological anatomy and treatment of spina bifida, which throws new light upon this not infrequent deformity.

By spina bifida is meant a congenital malformation of the vertebral canal, with protrusion of some of its contents, in the form of a fluid tumor, due, as a rule, to deficiency of the neural arches of the vertebræ, with consequent posterior projection of the tumor. The varieties met with are, first, meningocele, or protrusion of the membranes above; secondly, meningo-myelocele, or protrusion of the membranes, along with the spinal cord; and, thirdly, syringo-myelocele, a condition characterized by protrusion of the membranes, together with the cord, the central canal of which is dilated so as to form the cavity of the sac, the innermost lining being formed by the expanded and atrophied substance of the cord. Of these three varieties, the second is the most frequent, while the first comes next, and the third last. In meningo-myelocele, the most common variety, therefore, the thin, translucent membranous covering of the tumor represents in part the attenuated spinal cord, and the nerves, which are always found on the inner surface of the wall of the sac, arise from the intramural portion of the cord, instead of being distributed to it, as generally described. In the other two varieties, it is interesting to note, from both a pathological and practical point of view, that the sac is free from nerves. From these facts, it naturally follows that spina bifida, instead of being a mere dropsy of the central canal of the cord, is due to a primary defect of development, or a want or arrest of differentiation, of the blastodermic layers of the embryo.

In view of the fact that the most common variety of the deformity consists in great part of nerve tissue, the committee express decided opposition to ligation and excision of the sac, and advocate the injection of Morton's fluid, a plan of treatment which shows a percentage of success of between 50 and 60. This fluid, it will be remembered, consists of ten grains of iodine and thirty of iodide of potassium to an ounce of glycerine. As absolute contraindications, they mention marasmus and hydrocephalus, while paralysis, a thin sac, or an ulcerated one, impulse between the tumor and the anterior fontanelle, and the presence of the cord in the sac, render the result uncertain. They also point out that the operation should not be performed, unless for special reasons, in infants under two months of age.

In his brochure upon the treatment of spina bifida by a new method, published in 1877, Dr. Morton gives the details of fifteen cases in which his solution was injected, of which twelve were successful, and three died; and up to the middle of 1882, not less than twenty-three cures were recorded out of twenty-nine cases. These results are so utterly at variance with our own experience with the remedy, that we can only account for them by the assumption that all of the failures have not been reported, and the percentage of failures derived by the committee would seem to warrant the correctness of this view.

FERRÁN ON THE MORPHOLOGY OF THE COMMA-BACILLUS.

For weeks past the daily journals have contained notices of the experiments and inoculations of Dr. Ferrán, of Barcelona, but the current number of Leyden's *Zeitschrift f. klin. Medicin* contains the first published account of his investigations upon the life-history of the comma-bacillus. He regards the organism as specific and distinct from all others, and the comma-form represents only one stage of its existence. By means of careful modifications in the modes of culture the development has been traced. In gelatine or in weak alkaline flesh broth the commas grow into long spiral filaments, in which small spore-like bodies may be seen, as in the hyphæ of the anthrax-bacillus. This stage is not reached in ordinary cultures unless means are taken to remove the part rendered fluid, as this contains ingredients poisonous to the growth. In neutral or weak alkaline flesh broth this development is most rapid, and a few hours at 37° C. suffice to exhaust and render acid the medium. If now, more neutral or weak alkaline broth is added and the temperature reduced to 15–25° C. very remarkable changes occur. Large antheridia or spore-like bodies are formed on the filaments, which become free and enclosed in hyaline capsules.

For the further development of these structures it is necessary to add to the culture medium from ten to twenty per cent. of human or hog bile, and to keep the temperature from 18° to 25° C. Under these conditions the spores grow and attain the size of red blood-corpuscles, or even larger, and assume a mulberry shape. From these bodies long thin protoplasmic filaments exude, which ultimately assume a spiral form, increase by division, and from them the original comma-form is produced. A plate giving illustrative figures of the various steps in the process accompanies the paper. The comma-bacilli, antheridia, and mulberry-shaped masses, were also found by Ferrán in his own stools during a slight attack of diarrhœa, which he attributed to infection from the cholera cultures. Detailed statements are given of the mode in which Dr. Ferrán prepares the cultures, so that his observations can readily be tested, and no doubt they will be carefully repeated by Koch and others.

There is one criticism which will occur to everyone who knows anything of the life-history of the micro-organisms of disease. The group of fungi, schizomycetes, to which the bacilli belong, multiply, so far as we know, only by fission and the formation of spores in the filaments. Now, Ferrán's description and figures show a development of conidia-like bodies such as occur in the hypomycetes (moulds), a morphological inconsistency which is opposed to all previous observations.

No information is conveyed as to the methods of preparing the cultures for inoculation, but from other sources it would appear that ordinary cultivations are employed. In persons so treated the blood contains micrococci, spirilla, and comma-bacilli, a rather suspicious circumstance, as the opinions of other observers seem unanimous that in true cholera the organisms are not in the blood. The inoculations may produce very troublesome sores on the arm, and, according to a correspondent of the *British Medical Journal*, several persons have died after submitting to the operation.

TORTICOLLIS.

In the *Archiv für klinische Chirurgie*, Bd. xxx., 1884, may be found a noteworthy paper from the pen of Professor Petersen, of Kiel, in which the theory of Stromeyer, adopted by nearly all other writers, that torticollis results from rupture of one of the sterno-cleido-mastoid muscles during parturition, followed by cicatricial retraction, is combated. Petersen holds that subcutaneous laceration of the muscle leads to its elongation, and that the so-called hæmatoma of the muscle, instead of being the cause of the torticollis, is one of its effects, the muscle yielding readily because it is congenitally too short.

In a still more recent paper, published in the *Centralblatt für Chirurgie*, No. 14, 1885, Professor Volkmann, of Halle, considers the etiology of congenital torticollis, and bases his conclusions upon observations made upon the living subject. Being dissatisfied with subcutaneous section of the sterno-mastoid muscle in aggravated cases, he has successfully resorted, in at least twelve instances, to its division through a free incision carried along the inner border of the muscle, and as the result of minute examinations of small sections of the muscle, and of the discovery of bands of contractured tissue, he arrives at some conclusions which throw great light upon the affection, and seem to show that, as in talipes, adapted shortening of the fasciæ and other tissues maintains the deformity after the involved muscle has been thoroughly divided.

In some cases the muscle and adjacent tissues had undergone no changes whatever. In others, the muscle, to the extent of several inches, was converted into a white, comparatively non-vascular, tendinous mass; its sheath was not demonstrable, being united to the altered muscle by cicatricial bands; the sheath of the vessels was thickened, and the deep fascia was converted into resisting bands. In a third class of cases, the changes were not so marked, the muscle being the seat of a circumscribed callous patch, or traversed by a few tendinous cords. In none of the cases was there the slightest evidence of fatty transformation.

From these observations it follows that certain cases of torticollis result from trauma during delivery, which is followed by inflammation of the muscles and associated tissues. The changes which are met with are indicative of an active process, and Volkman thinks that they disprove the view of Petersen, who attributes the shortening of the muscle to a vicious position of the fœtus in the uterus.

SOCIETY PROCEEDINGS.

NEW HAMPSHIRE MEDICAL SOCIETY.

Ninety-fifth Annual Meeting, held at Concord, June 16 and 17, 1885.

(Specially reported for THE MEDICAL NEWS.)

TUESDAY, JUNE 16TH.—FIRST DAY.

MORNING SESSION.

THE meeting was called to order by THE PRESIDENT, JOHN WHEELER, M.D., of Pittsfield.

After the report of the Committee of Arrangements, the Secretary, Dr. G. P. Conn, read the report of the Council, concerning a memorial from the Woman's Christian Temperance Union, of New Hampshire, asking the Society to make some expression of opinion upon the question of

PRESCRIBING ALCOHOLIC STIMULANTS,

which had been considered, and was reported upon as follows:

Resolved, That the members of the New Hampshire Medical Society fully indorse the position taken by the American Medical Association at St. Paul in 1882, regarding the "conscientious caution in the prescribing of alcoholic stimulants," and regard the same as one of the primary principles of the profession, to which the members of this Society have always adhered and will continue so to do.

The request of the Medical Society of New Jersey for coöperation in an effort to elevate the standard of

MEDICAL EDUCATION

was introduced, and it was voted to indorse the report of the Medical Society of New Jersey, and that a committee be appointed to report upon the same at the next meeting of the New Hampshire Medical Society.

The proposition of the American Medical Association to establish

A STATE BOARD OF MEDICAL EXAMINERS

was favorably reported upon, and a committee appointed to memorialize the New Hampshire Legislature for the passage of a bill in accordance with the recommendations of the American Medical Association at its last meeting in New Orleans.

DR. WHEELER then read

THE PRESIDENT'S ADDRESS.

He said the Society should sustain good morals, good sanitary measures, and good laws, and the State should protect all these essentials to society and humanity. The laws of our State exact no especial requirements of clergymen except that of good morals; the law is a path of more legal responsibility, but the medical profession is the most important of them all to humanity and to society. His touch must be trained, his hearing acute, his memory ready, and he must be full of judgment else life may be sacrificed. His duties are often immediate and sudden, and he must be prepared for all emergencies. He should be a man of much wisdom.

A doctor is confronted and surrounded by strong legal obligations and responsibilities. Suits of malpractice are among the liabilities and are not unfrequently brought without any grounds upon which to base the charge. To avoid malicious suits, a bond should be given by the plaintiff before a suit is commenced, to reimburse the physician if the case is not sustained. The laws of our State allow six years in which to bring a suit, and in the case of a minor twenty years. One year should be the limit. The patient could lose no legal right thereby, while the physician would have some protection. Legislation to limit the time to one year was suggested.

Hygiene has been fostered by the physicians, and the State Board of Health is the outgrowth of this after a struggle of several years. Although the Board is young its work has already been of great value to the State, and it is doing much to restrict disease. Should cholera or any serious epidemic occur in the State, we should look to this Board for relief and to save life.

Medicine is still progressive, Much that was once held to be valuable in the treatment of disease is now cast aside as worthless, or is supplanted by something much better. The progress is rapid. Much has been accomplished in the last thirty years, as witnessed in chemistry, pharmacy, therapeutics and surgery. The discovery of disease germs was a wonderful stride, and physicians may now cease to wonder how diseases and epidemics are scattered broadcast. The investigations of Pasteur, Koch, Kline, Sternberg, and others, have given a great impetus to the germ theory of disease. The results are still shaded by doubt, but they are the prelude to greater discoveries in the future.

A centennial of the Society in 1891 was recommended, and a history of the Society for its first one hundred years. A record of its illustrious and distinguished members will be of much value and interest, and it is due to history that one be prepared.

DR. WM. CHILD, of New Hampton, read an essay entitled

"SANITAS, SANITATUM, OMNIA SANITAS,"

which was directed to the exposure of medical shams. In the profession are to be found truth and science which are ennobling to the medical faculty, but still it is full of shams, among which are many new remedies, pills, pellets, and powders; many of them are half secret and proprietary. The worst of all is that they are daily increasing, and most of them are for incurable diseases. The tendency is too strongly towards shams and shoddies. The regular medical journals advertise them in high-colored language, with testimonials. They are written for physicians only. When we wrangle over our code, and covertly act in violation of such code, then we are open to severe criticism. The physician who practises by the last medical journal may be a progressive one, but he is not a safe one. Still, disease has not decreased. Well-tried medicines have been abandoned for those but little known.

DR. T. B. SANBORN, of Newport, read a paper on

EPILEPSY.

This disease has been subject to much study, yet without much satisfaction in the results obtained. Lesions of the cord were shown by Brown-Séquard to cause the disease. Heredity plays an important part in the disease, and the mental faculties are generally impaired. It is sometimes simulated, a novel test being to tickle the bottoms of the feet. The bromides should not be used in anæmic cases. The drug is valuable, but it should be used with caution. It must be used in increasing quantities to be effectual, hence one of its dangers. The sodium salt is preferable. Nitrite of amyl is valuable in many cases. A plain but nutritious diet should be prescribed. Iron and quinine are of great service.

AFTERNOON SESSION.

DR. C. B. NICHOLS, of Franklin Falls, read a paper on

GYNECOLOGICAL DIAGNOSIS.

He asserted that many physicians refuse or neglect to examine into diseases embraced in this department of medicine and surgery, and too often ridicule those who make a specialty of this branch of practice. First, a proper examination of the patient is necessary, and for this purpose a properly constructed table is indispensable. The Chadwick table was recommended as one of the best. Reflex uterine neuroses are often manifested by headaches, pain in the back nausea, melancholia, and many other symptoms. He believed the greatest advance made for many years in this department was by Emmet in the operation which he conceived in 1861, and which was made public in 1869. It has stood the test of time as well as heated opposition.

DR. H. M. FRENCH, of Concord, then read a paper on

NASAL CATARRH.

The causes are many and varied, but the most common are cold from drafts, etc., heredity, inhalation of dust, fumes of certain substances, etc. Iodide of potassium will frequently produce it. Unventilated halls and churches are prolific causes. All the mucous membranes of the head may be involved. The first stage is dry, the second consists of a thin discharge which next thickens and then again becomes thin and disappears. It may be the precursor of bronchitis, pneumonia or other inflammatory condition; the chronic form follows. The disease may be due to heredity, or may from the first assume a chronic form. The mucous membrane of the nose thickens, and the septum is sometimes turned to one side and necrosis may follow. The discharges are purulent in this stage, and in some instances casts of the nostril are thrown off. In simple cases relief and recovery may be expected, but in severe chronic cases relief only may be obtained.

Cleanliness and drainage are two elements of success. In treatment the spray system is the best in both acute and chronic cases. The spray is so fine as to reach all parts, and the relief in some cases is almost instantaneous. Sniffing salt water and the use of gargles are of little use. A spray apparatus was exhibited. Carbolic acid, carbolized glycero-tannin, and other medicaments in spray were recommended. The relief is rapid, and the treatment is agreeable to patient. Sponge-bathing, friction of skin, good diet, and other hygienic conditions are also essential.

A REPORT ON SURGERY,

by DR. G. H. BRIDGEMAN, of Keene, was read by DR. C. R. WALKER.

The plaster splint was taken up, and its origin discussed as well as its virtues, including its wide range of application. Statistics of gunshot wounds of knee-joint, and results and treatment in European wars, were given. A report of an interesting case in the writer's practice was given in which a small pistol-shot passed through the knee-joint. The case was treated as a simple puncture. The knee was fixed, and constant irrigation maintained from a pail of water, from which candle wicking was suspended. Cases in the practice of others were referred to. Ligation of subclavian artery in its second part was reported, but the case proved fatal, probably from the accident which necessitated the operation.

Cocaine was discussed, and its possibilities referred to. He had used it in several conditions. In acute gonorrhœa he had found great relief from this and iodoform made into a pencil and applied three or four times daily.

EVENING SESSION.

DR. C. R. GIBSON, of Woodsville, presented a paper on

ANÆSTHETICS.

Chloroform, except with the very young or very old, is a dangerous anæsthetic. This truth is beginning to dawn on the English, and their surgeons are giving it up and using the formula A. C. E. We should never hesitate to give ether; unfortunately it is disagreeable to many. Many apparatus have been devised for its administration, but they are generally failures. They have many objections. The old funnel made of paper with napkins is nearly as bad. The patient should have pure air at each inspiration saturated with ether. He recommended the use of a well-worn napkin with one thickness, kept wet with ether, drop by drop. From five to eight minutes are sufficient in most cases to produce anæsthesia. The violent struggle is nearly done away with by these means, and the nausea is very slight. The room should always be kept quiet during the administration of an anæsthetic. This is the writer's method, and has always been attended with success. Much will depend upon the skill of the physician, which can be attained only by practice.

A REPORT ON OBSTETRICS,

by DR. J. WALLACE RUSSELL, of Concord, was read. Corrosive sublimate, 1 part to 1000 or 2000 parts of water, was recommended as the most valuable antiseptic in obstetrics. Many cases of extrauterine fœtation have been reported during the last year, and electricity has proven the most efficient remedy. An interesting case occurring in the practice of the writer was reported. The case was so peculiar that a diagnosis could not be made.

DR. EDWARD FRENCH, of Concord, read a paper on

MELANCHOLIA.

At the present time these cases are met with in daily practice. No phase of mental disease so engages our sympathies. In every case the thought of suicide is

present sooner or later. Hallucinations of all varieties exist—of taste, hearing, and smell; that of sight is less common. Religious hallucinations are often present. The efforts at suicide are of the most terrible kind, often taking the form of mutilation. It is almost impossible to distinguish the acute cases from acute dementia. It is a suicidal mania. Some interesting cases in the writer's experience were given to illustrate the phases of an acute case. In one case the patient killed himself by pouring scalding water upon his abdomen. Egotism and conceit are frequently marked symptoms. There were 423 cases of suicide in March, April, and May, in the United States. Inability to sleep is one of the first symptoms. Chloral hydrate should not be used, and the bromides sparingly. Opium alone, or combined with hyoscyamus, is a good remedy. Walking with an attendant several miles daily will generally induce sleep. It is important that the patient eat well. The nasal tube is the best for giving forced food; there is, then, no need of forcing open the mouth, and no choking. Mechanical restraint is the best, if any is required. Tonics and cathartics are needed in all cases. The patient should leave home and all old surroundings; this is important. The hospital is the place for most cases. With proper treatment, 60 per cent. should be restored to health. This paper was an interesting one and well received.

WEDNESDAY, JUNE 17TH.—THIRD DAY.

MORNING SESSION.

The reports of delegates to Dartmouth College, and the various medical associations, were presented.

DR. J. W. PARSONS, delegate to the American Medical Association, rendered a report of some length and considerable interest to the Society.

The resolution of the American Medical Association, adopted at its last meeting, at New Orleans, relative to the Code of Ethics, was adopted by the Society.

The report of the Treasurer was read and accepted. The report showed a balance of $550.02 in the hands of the Treasurer.

The following were elected

OFFICERS FOR THE ENSUING YEAR:

President.—Dr. George A. Crosby, of Manchester.

Vice-President.—Dr. C. P. Frost, of Hanover.

Treasurer.—Dr. D. S. Adams, of Manchester.

Secretary.—Dr. G. P. Conn, of Concord.

Executive Committee.—Drs. C. R. Walker, of Concord; George D. Towne, of Manchester; J. R. Kimball, of Suncook.

The Executive Committee reported, in part, the programme of the next meeting as follows:

Report on Therapeutics—Dr. J. Frank Brown, of Manchester.

Report on Necrology—Dr. E. L. Carr, of Pittsfield.

Report on Practical Medicine—Dr. I. H. Adams, of Derry.

Report on Surgery—Dr. C. B. Hammond, of Nashua.

Report on Obstetrics—Dr. Frank Blaisdell, of Goffstown.

The meeting then adjourned.

ONTARIO MEDICAL ASSOCIATION.

Fifth Annual Meeting, held at London, June 3 and 4, 1885.

(Specially reported for THE MEDICAL NEWS.)

WEDNESDAY, JUNE 3D.—FIRST DAY.

THE Association was called to order at eleven o'clock by THE PRESIDENT, DR. WORTHINGTON, of Clinton.

The forenoon session was taken up with the reception of members and general business.

AFTERNOON SESSION.

DR. POPE, of Bothwell, presented a

CASE OF CEREBRO-SPINAL MENINGITIS,

which began last January and was characterized by high temperatures, the highest being 107½° F., followed by a continuous elevation of 105° for two weeks. There has been gradual but steady improvement.

THE PRESIDENT then delivered his

ANNUAL ADDRESS.

He thanked the Association for the honor conferred on him in electing him to preside. He then briefly reviewed the progress of medical science during the eighteenth and present century. He dwelt more particularly on the changes that had taken place in the treatment of fevers, especially in reference to the use of cold water. He hoped the progress of the past may be but an earnest of the progress of the future.

DR. JOHN L. BRAY, of Chatham, then reported a case of

CÆSAREAN SECTION,

which terminated fatally.

DR. JENKS, who assisted at the operation, gave a lengthened description of the case with his views of the relative merits of Cæsarean section and craniotomy. He was strongly in favor of the former operation, which should in all cases be performed early. In the discussion which followed, a general preference was expressed for craniotomy to Cæsarean section, while many thought that Porro's operation, or some modification of it, should have been resorted to in the case reported.

DR. TYE, of Chatham, introduced the discussion on

DIPHTHERIA

in a most exhaustive paper, in which he pointed out that the disease does not stay its ravages for country or climate, and it is not ashamed to claim its victims in the house of poverty or fears to enter the home of luxury.

The people of Ontario are rapidly becoming educated in sanitary matters, and there are fair prospects that the prevalence of this disease as well as of many others, will soon be limited. The country owes much to the Board of Health for its energy, intelligence, and thoroughness in carrying out the provisions of the Health Act. The health report states that in the whole catalogue of diseases, none so persistently maintains its hold on a locality when once introduced as diphtheria. He then dealt with the various causes of the disease, its prophylaxis and treatment, local and constitutional, especially the latter, on which he places greatest reliance.

DR. BROUSE, of Brockville, in the discussion that followed, said that in some serious cases he had resorted to

calomel. He gave forty grains at the first dose; at the expiration of twelve hours, a dose of thirty grains, and another dose of thirty grains after twelve hours more, making 100 grains in twenty-four hours. The results in this and other cases were so satisfactory that he recommended this treatment in similar cases.

Dr. Graham, of Toronto, suggested the application of blisters to the body to form a raw surface, on which diphtheritic exudation might occur, and possibly thus relieve the throat.

Dr. Fraser, of Sarnia, followed with a paper on

CONTINUED FEVERS.

He deprecated the use of the term typho-malaria as incorrect, there being no such hybrid disease. Cases called typho malaria are simply typhoid, running an irregular course.

Dr. Bucke, of London Asylum, believed there was a fever occupying the middle ground between typhoid and malarial fevers. Just as enteric fever had been in time separated from typhus, so would there be a fever with distinct pathological conditions yet found to exist here.

Evening Session.

Dr. Newton A. Powell, of Edgar, introduced the

DISCUSSION ON PLASTER SPLINTS.

He traced the history of this mode of treating fractures. He advised the use of the finest dental plaster only, the common kind used by plasterers not being suitable for surgical purposes. He strongly urged this method for the following reasons: 1. The fit being perfect, there is little liability to displacement. 2. Support sufficiently firm to prevent displacement is obtained before the busy practitioner has to leave his patient. This is not the case with any similar plastic material. 3. Compression is uniform, limiting extravasation, and controlling muscular spasm. 4. In some form these dressings can almost always be applied at first visit. 5. The material is always at hand, and costs little. 6. The apparatus made from it can be depended upon not to contract in drying, as those made from the plastic materials do. 7. They are sufficiently porous to permit the escape of perspiration.

Dr. Howe, of Buffalo, read a paper on

ALBUMINURIC RETINITIS,

which he illustrated by a series of stereopticon views of the retina in different stages of the disease. The paper was very interesting, and Dr. Howe was tendered the thanks of the Association for it.

Dr. Groves, of Fergus, read a paper on *Urinary Calculi*, and Dr. Edwards, of London, one on *Placenta Prævia*.

Thursday, June 4th.—Second Day.

Morning Session.

Dr. Temple, of Toronto, presented a paper introducing the discussion on *Intrauterine Medication*, in which he discussed the various materials in general use for that purpose, and the conditions under which each is applicable. He esteemed iodized phenol highly, and invariably used it now instead of Churchill's iodine.

Dr. Edwards presented two cases of

PSEUDO-HYPERTROPHIC MUSCULAR PARALYSIS,

in two brothers aged ten and twelve. The older became affected six years ago, the younger about three years. The younger was still able to move about.

Dr. Stewart, of Montreal, thought that if such cases were treated early by galvanization, a cure might be effected.

Dr. Parks, of Buffalo, read a paper on the *Surgical Sequelæ of the Exanthematous and Continued Fevers*.

Dr. Brodie, of Detroit, President of the American Medical Association, who had just arrived, was introduced and most cordially received. He expressed his thanks, and said he attribued his kindly reception largely to the fraternal feelings entertained for the Association over the line.

Afternoon Session.

Owing to the pressure of work, the Association divided into medical and surgical sections.

Surgical Section.

Dr. W. T. Aikins, of Toronto, presiding.

Dr. Atherton, of Toronto, read a paper on

INTESTINAL OBSTRUCTION.

He gave a brief *résumé* of the cause, diagnosis, symptoms, and treatment of both acute and chronic cases, dwelling especially on the former, of which he has met seven cases during the last five years. One of the chief characteristics of acute obstruction is the *sudden onset* of symptoms. In cases of strangulation by bands and of volvulus there is absolute constipation, not even flatus passing. In intussusception frequent bloody stools occur very generally, with more or less tenesmus. In all cases fecal vomiting usually supervenes in the course of a few days. Symptoms of collapse set in sooner or later, according to the age of the patient and severity of the attack. In the diagnosis of intussusception from dysentery, Dr. Atherton thinks the color of the dejections of considerable significance. In all the cases of the former affection he has met with, the discharges were of a *bright pink* color, contrasting strongly with the dark clots and beef-tea-like stools of dysentery. In his cases also there was little or no mucus discharged; this may have been due to the fact that the invaginated bowel did not reach as far as the rectum.

When rest in bed with very spare diet, a few full doses of morphia, the use of several enemata through a long tube, and one or two washings out of the stomach fail to relieve the symptoms, he advises resort to laparotomy after two, or, at most, three days. One of the chief difficulties met with in this operation is the tendency of the distended intestine to escape through the abdominal opening. Very often it is necessary to puncture the gut to permit of its return after relief of the obstruction. The puncture should be made with a very fine trocar, else some fecal extravasation will result. This is due to the overdistended gut having lost its normal contractility.

Dr. Adam H. Wright, of Toronto, read a paper on

THE TREATMENT OF INEVITABLE ABORTION.

He referred to the two plans of treatment, which had been called the expectant and radical methods. In the former, the case is left chiefly to the natural efforts to complete expulsion. The dangers from this are chiefly hemorrhage and sepsis. In the radical method, the uterus is emptied as soon as possible, the cervical

canal being dilated if required. Unnecessary violence is sometimes employed, and the dangers are inflammation and sepsis. The truth probably lies between the two extremes.

He advised, in cases where hemorrhage exists, and cervix is dilated or dilatable, to empty the uterus at once with the finger, in preference to any other instrument. When cervix is not dilated, plug vagina; avoid, if possible, the use of the tent on account of its dangers.

DR. MURRAY, of Thorndale, read a paper on

HEMORRHAGE AFTER ABORTION.

He related the histories of six cases which had been treated by him. He showed the great danger of prolonged hemorrhage from the resulting anæmia alone as well as from other accidents, such as septicæmia. He also illustrated the dangers of injections of iron.

The two papers were taken together and discussed by the Chairman, Drs. Oldright, Temple, Henderson, Powell, and Edwards.

DR. REEVE, of Toronto, introduced the discussion on

COCAINE HYDROCHLORATE

by giving a succinct account of its uses generally and in the treatment of diseases of the eye especially.

DR. HOWE drew attention to two points on which he would like to throw some light: 1st. The desirability of obtaining an exact measure of the amount of anæsthesia from the drug; this is found in the effect on the blood pressure, as measured by the kymograph. 2d. The desirability of noting definitely the reputed ill-effects in irritation said to result from the drug. From a large series of experiments he found no irritating effect of any consequence. He concluded that it does the maximum of good with the minimum of evil.

DR. OLDRIGHT, of Toronto, exhibited a large *Meckel's Diverticulum*, which extended into the umbilical cord and was injured in cutting the cord, and reported a case of *Diaphragmatic Hernia* in a child aged five years. Part of the colon and the kidney were found in the thorax.

DR. HARRISON, of Selkirk, read a paper on *Foreign Bodies in the Larynx*, with the report of a case.

MEDICAL SECTION.

DR. GRAHAM, of Toronto, presiding.

DR. HENDERSON, of Kingston, read a paper on

PULMONARY CAVITIES.

He entered at length into the pathology of phthisis and the relation of the bacillus of tuberculosis thereto. He said that the bacillus is to be found in all forms of the disease and believed it to be chief if not the only direct cause. He pointed out that the practical application of Koch's great discovery has already commenced in the use of greater cleanliness and antiseptic inhalations now practised in the treatment of consumption. It is also possible that the bacillus may be so cultivated as to produce a mild form, which may be inoculated with success as is done in smallpox and anthrax.

DR. OWEN, of Arkona, presented a case of

TRIFACIAL NEURALGIA

in a young man. The hypodermatic injection of morphia was the only remedy that had so far proved efficacious in his hands.

DR. GRAHAM next read a paper on

INITIAL STENOSIS.

He showed a specimen and gave a full history of the case from which it was obtained.

DR. DUNCAN, of Thamesville, presented a paper on

WARBURG'S TINCTURE IN CANADIAN PRACTICE.

He advocated its use instead of quinine, as it gave better results in his experience. The majority of those present considered that quinine, when needed, was more to be relied on.

DIET IN DISEASE

was the subject of a long paper by DR. ARNOTT, of London. He said there is a large class of disease which, though not often fatal, are yet the cause of much suffering and impairment of usefulness, and in the treatment of which the profession has not made satisfactory progress. Several disorders have their origin in the consumption of more nitrogenized food than the constitution or circumstances of the person require, and consequently the regulation of the amount of albuminoid food consumed often constitutes a valuable therapeutic resort. Many diseases may be completely cured and others benefited by excluding albuminoid food from the diet. Vigorous outdoor exercise may answer the same purpose, but such is obviously often unobtainable. In Bright's disease, the diet should not include albuminous food. Foul breath, not due to any local affection, will invariably be rapidly cured by non-nitrogenous diet without the aid of medicine. He mentioned a case of asthma in which this diet in a month had produced great improvement, and upon tasting meat one day he had symptoms of return of his ailment. It is an absurd notion that a person will get weak on this diet. Albuminoid food is a true stimulant, and the want of it is felt by the patient, yet sensations must not be taken for reality.

ELECTION OF OFFICERS

resulted as follows:

President.—Dr. George Archer Tye, of Chatham.

Vice-Presidents.—Dr. Henry Arnott, of London; Dr. James A. Temple, of Toronto; Dr. Robert W. Hillary, of Aurora; and Dr. William H. Henderson, of Kingston.

General Secretary.—Dr. John E. White, of Toronto.

Treasurer.—Dr. James E. Graham, of Toronto.

Corresponding Secretaries.—Dr. A. H. Wright, of Toronto; Dr. John Campbell, of Seaforth; Dr. Aylesworth, of Collingwood; and Dr. John C. Mitchell, of Enniskillen.

Toronto was chosen as the *next place of meeting*, in June, 1886.

COLLEGE OF PHYSICIANS OF PHILADELPHIA,

Stated Meeting held June 3, 1885.

THE PRESIDENT, J. M. DA COSTA, M.D., IN THE CHAIR.

THE PRESIDENT presented, for DR. JOHN GRAHAM, the following report of

CASES OF POISONING BY CARBONIC OXIDE DUE TO A DEFECTIVE FURNACE PIPE.

On March 9th I was called to see the following cases of poisoning from the inhalation of carbonic oxide, the

poisonous gas being conveyed by the hot-air flue from one of our ordinary cellar heaters to the sleeping apartments of the patients.

The heater was situated in the middle of a large cellar; had been in use for a number of years, and each autumn had undergone some repairs. It consisted of the ordinary iron heater, enclosed by brick, forming a hot-air chamber. Inside the air chamber was a terra-cotta pipe, running from the heater, and penetrating the wall of the chamber, thence to the chimney, to carry off the products of combustion. This pipe was cracked for eighteen inches of its length, the crack being open half an inch; and, unfortunately, the crack was in the air chamber. This break is now known to have existed for several years; but up to the time of which I write had apparently produced no worse effects than annoying the family with a smell from the heater. Something more was needed to change the chronic poisoning into acute. The chimney furnished the addition needed. Like too many of its kind, it had several angles, when it might just as easily have been perpendicular, from cellar to roof. It formed part of an outside wall, and the frost had loosened some of the bricks near the top, which, falling down and lodging at one of the bends, partially obstructed it. Complaints came from the servants that the heater drew badly, but the cause was never carefully sought for. Steadily the disintegrating effects of frost and air on brick and mortar continued, until at the time of the accident the chimney was completely blocked. Of course, it is highly probable that on the day in question a more than ordinary quantity had fallen, blocking it suddenly, else we would have had our patients complaining of sickness as well as smells, which they did not.

The patients, Mr. R., aged 78 years, Mrs. R., aged 74, went to bed on the evening of March 9th, about 10 o'clock. Both were in perfect health and good spirits, and the only thing Mrs. R. remembers noticing was that the smell from the heater was a little stronger than usual. Fourteen hours after, the servant, alarmed at their not appearing to her calls, broke in the door and found them unconscious.

When coal is burned with a free supply of air, which, of course, necessitates an unobstructed chimney, the chief product is carbon dioxide. When burned with a deficient supply of air, as when the outlet is obstructed, the product is carbonic oxide. The first is poisonous when inhaled in sufficient quantity; three per cent. of the latter has been shown to produce death in animals in thirty-seven minutes. Carbonic oxide is a little lighter than air, and when heated ascends rapidly. In the case of my patients, the obstructed chimney diminished the supply of air to the fire, and the resulting product was carbonic oxide. Its tendency was to ascend. The chimney allowed no exit, so the crack in the terra-cotta pipe gave out the deadly product, and it ascended by the convenient hot-air flue to the open register in the bedroom, which, with closed windows, contained its unsuspecting victims. Carbonic oxide is tasteless and odorless. We cannot recognize it by any of the special senses. The products of ammonia, sulphur, tar, are what make up the odors from burning coal.

When found, Mr. R. was breathing rapidly with loud bronchial râles, and his skin was dark and congested. Both had vomited some time during the night, and their mouths were covered with frothy mucus. The extremities were cold; pupils dilated, and insensible to light. Patients were allowed plenty of fresh air. Whiskey was given by the rectum, also hypodermically. Ammonia was given by the mouth whenever they were able to swallow, and warm applications were made to their bodies.

In the case of Mr. R., the labored breathing increased, the blood became more and more carbonized, and he died thirty-six hours after the discovery of the accident, without regaining consciousness. There was no failure in his heart, the pulse being full, but increased in frequency. He evidently died from pulmonary œdema. His chest was dull on percussion, the lungs filled with fine râles. For a few hours before death, his temperature rose rapidly, and reached as high as 106°. He had no paralysis.

Mrs. R., when found, was pale and breathing almost imperceptibly. The same means were used in her case to produce reaction, and slowly and gradually the heart's action increased; by degrees the intellectual faculties were aroused, and the patient with much effort was able to inform us that from the time of going to bed until the return of consciousness all was blank. She had suffered no pain; remembered nothing. Her pulse at this time was 60, small and compressible. Respirations, 14; temperature below normal. She was kept in the horizontal position. Liquid nourishment was given, with small doses of whiskey, and Basham's mixture ℥ss four times daily. The brain worked slowly, and she spoke only when roused up, and then dropped back into semi-consciousness. The tongue was coated, and had a slight tendency to dryness; bowels costive; appetite poor. Her improvement progressed slowly, but at the end of seven days she was able to sit on a chair by the side of the bed. The pulse increased somewhat in volume, but the patient remained drowsy, falling into the same dull condition, unless when roused by noise, of which she complained greatly, saying it hurt her head. She also complained of intense pain in her back, running down the legs. At no time in the progress of the case did her urine contain either albumen, sugar, or tube-casts. Her blood was not examined.

Patient continued in about the same condition for three weeks following the accident. The Basham's mixture having been succeeded by pills of carbonate of iron, and the whiskey omitted. Pulse 60 to 70; temperature varying greatly from slight causes, from 98° to 103.5°, but mostly normal; anæmia very marked.

On the morning of the twenty-first day following the accident, the patient, while sitting on a chair, was taken very ill. A deadly pallor overspread her countenance, the jaw dropped, the limbs relaxed, and she became unconscious, convulsive twitchings passing through her body. We quickly placed her in the recumbent posture, and, after a hypodermic of whiskey, she slowly opened her eyes and asked, in an excited tone, "What is the matter?" The supposed cause for the sudden change, was that our patient's digestion since commencing the iron had been gradually growing worse, the tongue drier and more coated, the appetite poorer. I had realized that this digestive trouble was from the iron, but continued it up to this time on account of her profound anæmia. I now reluctantly stopped it, and

put her on dilute muriatic acid, ten drops every three hours, with pepsin after food, and enjoined absolute rest in the recumbent posture. The temperature on reaction reached 102°; pulse 120. The pupils were still further dilated; the reasoning power was all gone; answered questions with difficulty, and in monosyllables. The tongue became very dry, and it was almost impossible for her to protrude it. Stools were watery, frequent, and involuntary.

At this time the patient was seen by Dr. J. M. Da Costa, who advised the continuation of the acid, careful nourishment, and keeping the bowels open. The treatment resulted favorably. In forty-eight hours the tongue regained its moisture, the appetite improved, and the dulness of the mind diminished, though the patient still continued to have delusions and hallucinations, and the memory for certain words, and familiar words, was poor. On Dr. Da Costa's second visit on the twenty-sixth day of her illness (April 3d), the acid alone having been continued in the meantime, our patient was much better, tongue moist and clean, bowels natural, and, excepting the anæmic appearance and mental dulness, she was doing well. We then put our patient on the same diet, milk, beef-tea, mutton broth, etc., without solids, and stopping the muriatic acid, gave tinct. ferri chlor. ten drops, liq. potas. arsenitis, five drops, four times daily. This treatment was continued off and on until April 19th, the forty-second day of her sickness, when it was finally abandoned. Its use for a few days was invariably followed by dry tongue, loose bowels, and increased mental disturbance. This was also the case when we tried the arsenic without the iron. On resuming the muriatic acid, the tongue would regain its moisture, the bowels become regular, and the mind somewhat improved, but the anæmia, as shown by feeble pulse, pale skin, bloodless conjunctiva, continued.

On April 19th I noticed twitching in her left forearm, which was firmly flexed on the arm, and the hand on the forearm; the mouth was slightly drawn towards the left side. I then stopped the iron and arsenic and returned to the muriatic acid treatment. The rigidity of the left arm was followed by partial loss of power in the same, the patient raising it with difficulty, and not being able to grasp with it as firmly as with the right. Her mouth became drawn still further towards the left; it was, therefore, a case of alternate paralysis. She swallowed with increasing difficulty, and had involuntary movements of urine and feces. Sensation in the fingers remained good. Patient remained about the same, except that the bowel movements decreased in number, and the tongue regained its moisture, after again substituting muriatic acid for iron and arsenic, until Dr. Da Costa's third visit, on April 26th, the forty-ninth day of her illness. He advised the continuation of the muriatic acid. She also had an application of dry cups to the back of her neck. The paralysis, which we concluded was probably caused by an effusion near the base of the brain, slowly passed away, but the anæmia was almost as marked as ever.

On May 5th we began the use of ferri phos. cum ammon. cit. gr. ij, dissolved in 10 ♏ of distilled water, hypodermically, daily, but, as it was followed by some hardening of the cellular tissues, and produced disturbance of pulse and temperature, we abandoned the use of the iron hypodermically, and gave it by the mouth in two grain doses, morning and evening, also continuing the muriatic acid. From this time the improvement was progressive. The appetite increased, bowels became regular, the left hand and arm continued to regain their power, the deviation of the mouth to the left steadily diminished, and the patient became interested in her surroundings, and asked and answered questions with increasing intelligence. The pupils gradually diminished in size, and on May 20th, seventy-three days after the accident, our patient was sitting up, and four days after was able to walk into an adjoining room.

Dr. J. M. DaCosta said: In regard to this case, which has been so thoroughly worked out by Dr. Graham, there are several points which strike me as being of special interest. In the first place, the serious parts of the case came on late. For a time the patient was apparently doing well, and then, in the midst of the affection, she is paralyzed with a comparatively rare form of palsy, with paralysis of one side of the face and of the other side of the body. This was preceded by muscular twitchings; the case seemed to be hopeless; but she got over the palsy in ten or twelve days. Another point was the persistence of anæmia, with all that that implies, including anæmia of the brain. The aphasia, also, was very marked. This was all the more striking, because she was a woman of decided mental force and culture and ready expression. The extreme aphasia which was present for a time was probably due to low nutrition of a portion of the brain from anæmia. Another point, and one which has been well brought out by Dr. Graham, is in reference to the therapeutics. Until quite late in the case the symptoms were aggravated, rather than improved, by the use of iron. Improvement always followed the use of muriatic acid, and it is to this and the steady nutrition that her recovery is to be attributed. Late in the case a form of iron, which I have found to be well borne, the phosphate of iron with citrate of ammonia, was well tolerated and well digested; but this may have been due to the fact that the patient had so far convalesced that she could digest iron, whereas previously she could not do so.

Dr. Henry Leffmann said that poisoning from carbonic oxide is essentially different from that by most other gases in the fact that a compound is formed by the carbonic oxide and the hæmoglobin which is very difficult to break up. The compound formed by carbonic acid and hæmoglobin can be easily broken up by increasing the tension of the free oxygen present in the blood, but the carbonic oxide compound cannot be. The anæmia was due to the modified condition of the hæmoglobin, and not to the absence of iron, and, therefore, did not yield to the ordinary remedies. An examination of the blood by the microspectroscope and a counting of the blood-cells would, doubtless, have yielded important results.

CORRESPONDENCE.

THE INTERNATIONAL SANITARY CONFERENCE AT ROME.

Rome, May 7, 1885.

The subcommission composed of the technical delegates to the International Sanitary Conference has completed its labors, and will submit a detailed report

to the *conférence plenière* within two or three days—as soon as it can be printed. In the meantime the members are supposed to be in need of a little relaxation, and are offered by the government an excursion to Naples, which will include a sail about the harbor on an Italian man-of-war, and a visit to Pompeii. The delegates have been very handsomely treated by the Italian government, and the dinner given to the members of the Conference at the royal palace, by King Humbert, will be remembered with special pleasure. This is not the place to describe a State dinner, and it will suffice to say that it was regal in every respect; that His Majesty was extremely civil; that each delegate was presented to him individually; and that he took pains to converse for some minutes with each as he was presented, and again after the dinner.

It as supposed that the business of the Conference will be completed within two or three days after the return from Naples. But no one anticipates that an International Sanitary Convention treaty will be effected at the present time. This was the object of the Italian government in inviting each country to send a diplomatic as well as a technical delegate. But it is generally understood that these delegates are for the most part without authority from their respective governments to subscribe to a convention, and that whatever is agreed upon must be *ad referendum*.

The subject of cholera occupied the entire attention of the technical subcommission up to the last session, and it is probable that an adjournment would have been made without reference to any other disease, but for the action of the American delegate, who at the last moment introduced the following proposition:

"The measures recommended to be employed against cholera are, in general, applicable to yellow fever, and to other diseases which prevail epidemically under the influence of bad sanitary conditions, and which are transmissible by the intermediation of man. The most efficacious means to prevent the propagation of the diseases of this class are the sanitation of cities, and of vessels leaving infected ports; the isolation of the sick, and the disinfection of their effects, and of infected or suspected places."

This was passed by a vote of 17 in the affirmative, with 3 abstentions. The abstentions meant that the means named were secondary, as compared with quarantine, and it is probable that if the quarantine party in the Conference had had a little more time to consider the fact, that the measure which they insist upon as the most important was not named in this resolution, they would not have assented to it so readily.

The delegates have been practically divided upon the quarantine question into three groups, and the discussions have for the most part had reference to this question. The English delegates insist upon it that quarantine is useless. Sir Joseph Fayrer, Sir William Hunter and Dr. Lewis, have all spent much time in India, and assume that their superior opportunities for observing cholera have given them very *advanced* notions with reference to this disease. From their point of view, all of the other delegates are laboring under a serious error in assuming that cholera is transmissible by human intercourse, or may be carried across the ocean in ships. They insist that all of their Indian experience negatives this supposition, and assert that when cholera appears in our country, for example, soon after the arrival of a ship having cases on board, it is simply because the "*cholera wave*" has reached our shores, and the cases on the ships are due to the fact that these ships encountered this "cholera wave" while at sea. Cholera travels entirely independently of ships or persons; it is in no sense infectious; the dejections of the sick are harmless; disinfection is a farce. Consequently, quarantines of all kinds are useless, and to detain English ships coming through the Red Sea and Suez Canal for the protection of Europe is a superfluous and unscientific proceeding.

It is doubtful whether these gentlemen represent the state of medical opinion in England at the present day, but they represent a respectable body of English medical officers in India, whose views have been very well stated by Surgeon-General Cunningham, in a little book recently published. These gentlemen are very sincere, and are practically in the same position with reference to cholera as were many reputable medical men in our southern seaboard cities, as regards yellow fever, some twenty-five years ago. There are still a few who adhere to the opinion that this disease travels independently of human intercourse, and is endemic in our Southern States. Those who study a disease in the territory where it prevails endemically, are too apt to assume that their familiarity with it gives them special advantages over those who only encounter it occasionally in epidemic form at places remote from its normal habitat. The conditions are greatly complicated in the area of endemic prevalence, and local prejudices often have a certain influence in giving a bias to the judgment even of the fairest minded men.

Our knowledge of the etiology of these diseases has been gained rather from the independent labors of unprejudiced observers who have studied local epidemics at a distance from the endemic centres and who have carefully recorded the facts relating to them; and from bringing together these histories made at different times and in different parts of the world. Certainly the facts, as observed in the United States, do not at all sustain the view of our English friends, and there are probably very few well-informed persons in the United States who believe that cholera comes to us across the broad Atlantic independently of ships and human intercourse.

With the exception of the English delegation it is safe to say that the members of the Conference are unanimous as to the transmissibility of cholera, and by far the largest majority look upon the dejections of the sick as the medium through which the infectious agent is propagated. All are agreed that theoretically quarantine should be an important prophylactic measure; but there is great difference of opinion as to the practical benefit to be derived from quarantine restrictions.

The majority of the delegates are convinced that the arbitrary quarantine of the past is worse than useless, and there is a general desire to substitute for a time quarantine a system of medical inspection, with isolation of the sick, disinfection of infected articles and localities, etc. The French delegation desire in addition to this to detain healthy passengers from an infected port for several days for observation—practically quarantine—but to keep them in separate groups and well removed from the sick, and to release each group at the end of

five days observation if no case has occurred in the mean time.

This modified system of quarantine has received some support, but has been opposed by some of the delegates on the ground that it is unnecessary, and by others on the ground that it is insufficient. The countries which demand a time quarantine of ten, or at least of seven, days are Turkey, Roumania, Spain, Brazil, and Mexico, while the other countries are in part in favor of the system proposed by the French delegates, and in part opposed to any restrictions as regards ships and passengers not sick, other than those required by a rigid medical inspection and the thorough disinfection of soiled clothing, etc. No doubt, the quarantine question will come up again in the general conference, and the special measures which have been recommended for the Red Sea will be stoutly contested by the English delegation.

Two propositions relating to international notification of cases of infectious diseases were passed at the last session of the Technical Subcommission. These propositions are as follows:

1. The Technical Committee expresses the wish that the International Conference affirm the necessity of publishing a bulletin of international statistics for each important city, a bulletin on a uniform plan, and publishing each week the total deaths and the number of deaths caused by each infectious disease, and particularly by cholera and by yellow fever.

2. As concerns cholera and yellow fever, notification of the first cases which appear in different localities, and particularly in maritime ports, should be immediately sent by telegraph to the various governments.

The application to yellow fever was introduced by the delegate from the United States as an amendment, the proposition as first reported having taken no account of this pest of the West Indies, which from an American point of view is quite as worthy of consideration as is the Asiatic pestilence which has almost exclusively occupied the attention of the International Sanitary Conference of Rome.

NEW INVENTIONS.

A DIOPTRIC SCALE OF FOCAL LENGTHS.

BY EDWARD JACKSON, M.D.,
OF PHILADELPHIA.

IN measuring the power of accommodation, when the distance from the eye to its near point has been determined in centimetres or inches, quite a problem in arithmetic must be solved before one can express in dioptrics the amount of accommodative power.

Again, if the distance from a myopic eye to its far point be measured on any ordinary scale, the same problem is to be met before the number of dioptrics of myopia can be known.

This is the chief disadvantage of the metric system for numbering lenses and recording states of refraction. The number of dioptrics expressing the degree of refractive power stands in no such simple relation to the divisions on the common metre measure, as does the expression of the refractive power in inches to the divisions on the yard-stick. Thus, in inches, the expression, one-sixth, is instantly deducible from the six inches marked on the yard-stick. But the 6 D. lens has no corresponding mark on the ordinary metre measure indicating its focal distance, one-sixth of a metre.

This defect of the metric system can be remedied by using a scale divided, not into equal parts, as centimetres or inches, but so as to indicate the focal lengths of the different lenses of the dioptric system. Thus, starting from zero, a mark at one-fiftieth of a metre indicates the focal distance of the 50 D. lens at one-thirtieth of a metre; that of the 30 D. lens at four-fifths of a metre; the five-fourth or 1.25 D. lens, and so throughout.

This scale does away with the necessity for calculating each time the number of dioptrics that a given focal distance represents; and these calculations, though singly brief and easy, have in practice to be made so frequently as to demand a considerable aggregate of labor. I have used such a scale with satisfaction for some years; and recently, at my suggestion, J. W. Queen & Co., of this city, have placed it upon the edge of the metre-inch measures they furnish for the measurement of accommodation, etc. Such a scale is very convenient in the measurement of refraction by the shadow-test. (See *American Journal of Medical Sciences*, April 1885.) It may also be used to determine, in metre-angles, the amount of convergent strabismus.

215 SOUTH SEVENTEENTH STREET.

NEWS ITEMS.

CHICAGO.

(*From our Special Correspondent.*)

TRANSACTIONS OF THE CHICAGO MEDICAL SOCIETY.—As very general dissatisfaction has been expressed with the manner in which the transactions of the Society have been reported during the past two years, a stenographer and committee on publication were elected. Dr. John A. Robison was elected stenographer; Dr. Edmund J. Dorring and Dr. Robert Randolph were elected members of the committee on publication. Only such reports of the Society's proceedings as bear the signatures of these gentlemen are official.

It was determined that in future reporters for the secular press should be excluded from the Society's deliberations.

THE BRITISH MEDICAL ASSOCIATION will hold its Fifty-third Annual Meeting at Cardiff, on July 28th, 29th, 30th, and 31st, under the presidency of Dr. W. T. Edwards, of Cardiff. The Address in Therapeutics will be delivered by Dr. W. Roberts, of Manchester; the Address in Surgery, by Mr. John Marshall, of London; and the Address in Public Medicine, by Mr. Thomas Jones Dyke, of Merthyr Tydvil.

CHOLERA IN SPAIN.—The French Government has decided to send a commission, headed by M. Brouardel, to Spain to study the origin and progress of the cholera epidemic.

THE BRITISH GYNECOLOGICAL SOCIETY has appointed a committee to collect evidence on the subject of menstruation in its physiological and pathological relations, and has voted £50 toward the furtherance of this object.

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